

Field Book
of
Willis Linn Jepson,

Department of Botany
University of California

This book is valuable only to
the owner. If lost finder please
return to W. L. Jepson,

11 Mosswood Road,

Berkeley, California,

and receive reward.

Berkeley to Mt. Diablo

Sept. 25, 1926

- Today took Professor ^{F. H.} Chodat to Mt. Diablo. He was delighted with the country. He continually exclaimed: "It is a fine country. It is a beautiful country." He was not in the least prejudiced against the country on account of its dryness like Sir. Joseph Hooker. On the contrary he was delighted with its colors - especially the tans, browns, yellows and so on of the upper open slopes of the mountain. I found a clue to his appreciation of color, when he sat down to make sketches in color with colored pencils. He worked rapidly and produced results that were very interesting and quite artistic. He also works in water colors when the conditions make the work possible.

Berkeley to Mt. Diablo

we had a good deal to talk about - in common, I mean. He told me how he happened to write the little brochure on "A Grain of Wheat." It was done in memory of Aaronsohn. So he was much pleased when I said that I had a copy. This incident happened as we sat at luncheon on top of the mountain. It was the "campus" formation that he seemed to admire most; the "prairie". "Ah, those beautiful colors up there. It is wonderful". He then recalled the Lotus-eaters who forgot their own land, and said that one here in California could easily forget his own land; and he dwelt upon the shape of the hills, the color of the hills, the form of the trees. He said, naturally enough: He

Sept. 25, 1926

Asclepias californica makes me remembrance of the fig! Its fruit - is a little that way too.

When we came to a large bush of *Proctostaphylos stanfordiana* the car was stopped and he made a colored drawing of it. He thought the bark color an unusual color; and it is; peculiar in this country; nothing else like it.

He gave me an example of diem-tinuous distribution - a series of allied species of *Abies*; *A. pinsapo* in Spain, with leaves all around the stem, by a series of species eastward to *A. nordmannia* with the leaves in flat sprays.

Adiantum fasciculatum, pure formation, chamisal, interested him. I told him the formations were purest on sharp slopes where the drainage was

Mt. Diablo

most perfect. I found strong tap-roots of *Sclerostoma fasciculatum* going down vertically 3 ft. until lost in the earth.

This observed on a road cut.

What are those spiny things said Professor Chodat. He referred to the aspect of the *Aesculus*, with the stiff petioles sticking stiffly out like slender quills - the leaflets having fallen. I do not know that I ever ^{before} saw this feature so pronounced. It is certainly a curious sight.

He constantly noted parallels between our native species and those of the Mediterranean flora; the resemblance between our *Quercus agrifolia* and *Q. ilex*, which I had also noted in Palestine. *Salvia mellifera* in its formation he compared to *Thymus* of the Mediterranean.

Sept. 25, 1926

Like most Europeans he criticized the extreme specialization of American botanists. When he arrived in this country they wanted to know what was his specialty, was he a taxonomist or morphologist, or what? He replied: I am a botanist! You must have taxonomy and ecology to understand biological problems. You can not have a proper problem unless it has a biological relation, a biological basis. You must have knowledge of a wide range of plants in order to be able to select a proper problem. A problem must have its relations. It must be related to living phenomena, to the question of plants in the natural world. ^{Living} He said that he had copied, for lecture illustration, nearly all the pictures in my *Silva of California*. Chodat thrilled

Berkeley

over the form of the hills. He noted every color, every shade of gold, of tan, of yellow.

- Jerome Chester Ford. I met him a few evenings ago at Dr. C. C. Price's house. He was born in Mendocino City and brought up there. He was in the Big River Lumber Co. for many years and finally sold out. He had vivid recollections of the early logging days when Pepperwood bows were made for the ox teams. He referred also to the huckleberry industry of that coast, saying 1200 twenty-pound boxes had been shipped through the Mendocino postoffice in one fall or summer. His sister married mouth this guy Earl of Oakland. - Oct. 31, 1926.
- Ernest Brampton of Los Angeles called Oct. 29, 1926. I was away the day at Sacramento.
- Mrs. Ida Blochman called to-

Nov. 12, 1926

day, Nov. 12. She is interested in teaching botany to the College Women Club. An annual flower show is held. Mrs. B. had her training under Bessey and, as a teacher, loved to interest young folks in botany; why then is but one pumpkin produced at a node even though there are many flowers at that point and so on. She wished me to lecture on the Flora of Palestine.

- The winds. E. A. Beals, Consulting Meteorologist, Alameda, lectured Nov. 21, Cal. Acad. Sci., on Relation of the North Pacific Trade Winds to the Climate of Cal.
- Dr. C. E. Moore, Chico State Normal, called today. He is on his way to Panama to work on the banana for the United Fruit Company. A bacterial disease is ruining the plantations. - Nov. 29.
- Mrs. Ida M. Blochman who sent specimens to Greene long ago had her training at

Berkeley

Ames, Iowa, under C. E. Bessey and Jos. Arthur. Arthur was a butt for the student jokes. A student artist drew him and Mrs. Blochman and a girl friend threw the cartoon through the transom of his room onto the bed. Many of the faculty and the students lived in a dormitory. Arthur took the joke goodnaturedly. It seems the students were especially amused at the buttons on his trousers.

Mrs. B. made a collection of the plants in Santa Barbara Co. ~~off~~ for the Chicago Fair in 1893. The determinations were made by E. L. Greene, whence *Erigeron Blochmanus*, *Delphinium Blochmanae*, *Senecio Blochmanae*. The latter grows along the coasted seabeaches and extends up

Nov. 1926.

the Cuyama River as far as the town. After that, towards the interior, *Senecio douglasii* ^{begins} and runs away to the east. The two do not overlap says Mrs. Blochman and S. Blochmanae is distinct from S. douglasii.

Mrs. Blochman says that the Blochman ranch in the Sierra foothills is about 20 miles east of Legrand. A large number of Indian pot holes occur on a small area there.

I dined at the Blochman's on Sunday, Nov. 28.

- Dr. L. H. Bailey of Cornell has just called: He said, apropos of my remarks about the sad condition of the National Herbarium, that there ought to be a great National Herbarium which could be used

as a depository for private herbaria. "Collectors who have made a special study of a group, who have monographed a group, who have accumulated a type collection, do not wish their herbaria distributed through a general herbarium. It is a natural feeling. Their life-work loses its identity. And it is desirable in the case of collections dealing with special groups such as *Juncus*, *Quercus*, *Salix*, that the collection should be kept distinct. I once went to Kew to study *Carex*. I wanted to work over Francis Booth's collection. There it was. As a separate unit! I did not have to wade through a mass of other material that I did not care about. Various persons, moreover, would deposit collections in a national depository for

safe keeping or by way of loan. The Stephen Elliot herbarium in Charlestown is uncared for and in a damp room where it is suffering badly. I think protest could be made to Charlestown College to move it to a safe place. But no one is working with it or interested in it. The Canby Herbarium is in Brooklyn, the property of some pharmaceutical society; probably being eaten up by bugs since no one is interested in it."

"I would like to spend the rest of my life finishing up monographs I have started, the palms, rubus. My herbarium is unique in this country. The only place where one can work on cultivated plants, can do research. I send North American ferns to Weatherbee at East Hartford. He and

his wife have a small income sufficient to live comfortably. He puts in a great deal of time at the Gray Herbarium, and has apparently some official duties there. I send roses, cultivated ones, to Rehder; I paid him for the work. I often pay the specialist, if he will take money. I send other ferns to Maxson but Maxson is buried under a load of duties and cannot reply promptly. He has had my Brazilian ferns now two years. All grasses go to Hitchcock. His method increases greatly the value of my herbarium, for each specialist puts on his determination slip."

Bailey and his family are spending the winter at La Jolla. He goes to Philadelphia to the meeting of the A. A. A. S. soon to preside as President.

He was 2 years assistant to Asa Gray at \$380* per year, a princely sum, he said as he smiled in reminiscence. Trelease and Coulter were also assistants there. No one now at the Gray Herbarium even knew Gray, said Bailey.

* This is the sum as I remember but he may have said \$280⁰⁰

- Fire. Influence of, on vegetation. Cf. T. A. Sprague in litt. 27/9/26.
- Harley P. Chandler. He died of tuberculosis at San Jose. Was living at Saratoga. Became a Christian Scientist and when the disease came on refused to abandon the Christian Science practitioner. His mother still lives (residing in St. Paul) and he has cousins at San Jose. The above from E. C. Babcock, Dec. 3, 1926.

- Association to save Pt. Lobos with its cypresses. Meeting in the Blue

San Francisco

Room ^{today} at the Palace Hotel, San Francisco
 Co. Luncheon. About 32 persons present.
 Duncan McDuffie presided. He did it
 extremely well. His language was
 well-chosen, effective, easy, culti-
 vated. He talked directly to the
 point, with persuasive words,
 but not discursively nor at
 length. He had something to
 say and with confidence. H.B.
 Curry related the history of the
 Save-the-Redwoods League. I
 talked on the scientific interest
 of the Monterey Cypress, its relation
 to the geological history of the
 coast, its peculiar charm in con-
 trast with the Lebanon Cedar,
 its distinctness from any other
 cypresses in California. Next
 W.F. Bade, who talked at
 some length but not excessively.
 He is an excellent talker but I can-
 not recall anything he said. - Dec. 9, '26.

Dec. 9, 1926.

Cont. from prev. page. - Also present, Chas.
 Mel, Mrs. Gaillard Stoney, Geo. Stone the
 photographer, Dr. D. H. Campbell of
 Stamford, Miss Ida Bourn.

- Chromosomes and species.

Chromosome number verifies results
 of taxonomy. Chromosome numbers
 in a genus run in series, that is
 multiple numbers in a series.
 Species of a section may have a
 single number.

One can never prove a species
 as a natural unit by chromosome
 number. You may get the same
 chromosome number and get
 have two species. Different chromo-
 some number of course corresponds
 to a different species.

Species with varieties of different
 chromosome number indicates different
 species. Species with same chromo-
 some number in the varieties, yet
 they may be different species.

The above remarks are from a paper read by F. R. Wieland at the Ithaca Congress. My reporting may be imperfect since the notes made at the time are written up too long after. C. H. Ostenfeld of Denmark said that chromosome numbers are of no more use in defining species than hairiness or smoothness of a species. J. H. Shull commented on the vegetative range of variation in a variety, as opposed to constancy in the flower.

K. M. Wiegand insisted that species exist in nature; that they are recognized as such. Varieties have a short range. Hybrids are to be specially treated. - Ithaca, N. Y., Aug. '26.

- Geo. W. Groff, of Ling-Nan University, Canton, China, has been with us as a graduate

student since August, 1926. He is a bright progressive steady likeable man. He knows my friend Ronal Bursall in China. He has a collection of plants of the province in China of which Canton is the center.

These are to form the basis of a check list in Chinese, for the Chinese, the first of its kind. - Jan. 4, 1927.

- H. E. Wieslander, research forester in the new U. S. Forest Experiment Station at Berkeley, called today. He said: *Ceanothus divaricatus* occurs abundantly on the ridge between the two forks of the Cosumnes River, 2000 ft., in Placer Co., e. of Nashville. - He observed it in Oct. 1926.

- Jan. 5, 1927. * = El Dorado Co.!

- James Davis, my old-time camp boy on the Marble Mountain trip, later District Attorney of Del Norte County, called today. He said: The Redwood Belt had a great

influence on the native tribes settled within or near its borders. It entered greatly into their economy and they developed many arts in connection with it. It was only certain trees that they selected for boat making, certain individuals that were suitable. The process of making the boat both light and strong was an elaborate one. Finally it was taken down to the sea and soaked in salt water; then dried in the sun. It had to be light so that it could readily be carried on the shoulders of men in portages.

The Redwood forest had an influence on the native animals. The legs of deer in the Redwoods are longer than those outside. A fawn cannot be tracked ^{by} dogs until it loses its spots. It has no scent until that time and dogs will run right over a fawn

lying on the ground without detecting it. - Jan. 6, 1927.

- California Botanical Society Meeting Jan. 13, 1927 H. L. Wason reported a very large *Quercus Kelloggii* at Hog Ranch, Yosemite Park. Professor Horne reported that *Feyoia* is being cultivated commercially in S. Cal.

- Professor Jose M. Galvez, Universidad de Chile, is here again for a few days. He has been around the world at various places as an academic representative from Chile. Berkeley, Berlin, Peking and many other places, spending four-and-one-half years! He is a great lover of bees and his panegyric of *Segris gigantea* was fine to hear. - Jan. 22, 1927.

- David Keck, student of Philip A. Munz, Pomona, now working with H. M. Hall in Berkeley, came to the Research

Herbarium today to see Orthocarpus specimens. He is revising Orthocarpus. He said: "Dr. Hall tells me that Mrs. ^{H.} Brandegee went about snipping fragments off types in various herbaria and indicating the species on the label - but not indicating that they were from type specimens - nor indicating the herbarium?" - Feb. 14, 1927

- The California Botanical Society had an unusually fine annual dinner meeting on the evening of Feb. 12, at Student Union, Berkeley. The Toastmaster, W. W. Robbins, carried off the dinner excellently. Anson Blake (on the proposed Howell Mt. Park which the Blake's propose to give to the State), F. W. Koch (on botany and zoology

in the schools, vs. "biology"), Professor J. H. Priestley, University of Leeds, England (on the value of botanical societies), Professor Geo. J. Peirce (of Stanford, on certain saline waters in relation to ^{certain plant} organisms) - all were effective, interesting and not too long. A word of greeting ^{by W. L. J.} on behalf of the Society was said to Samuel Bonsall Parish, who had just completed his eighty-ninth birthday, and another word in memory of Alfred L. Walker, the Society's authority on drug plants, and A. J. Soares, who made exquisitely colored photographs of the native flowering plants. Dr. R. W. Chaney,

Carnegie Institution, gave the main address on the Third Mongolia Expedition, beautifully illustrated with lantern slides. Mr. W. W. Carruth and Miss Elizabeth Jump furnished us music at the end. - W. L. J.

— Wind. A very great gale in Berkeley last night. Hersam, the mining engineer, said it had higher velocity than any other wind in his experience (of 22. gales) in California (about 30 years). Its peak was about 2 o'clock but I did not awaken until a little after 4. I realized by the sound that it was of gale force. However it did not seem to me as strong as the great gale from the southeast in the daytime one Sunday about six or seven years ago, which took down so many trees in Berkeley. Probably I made a note of that at the time. I have seen no trees down* this morning. Branchlets 6 in. to 12 in. long were freely torn out of the tops of Umbellularia Californica and carried 50 yards — living branchlets violently ripped loose. — Feb. 16, 1927.
* Many trees down!!

— Aristolochia californica Torr. H. L. Mann says in spring 1926 he saw it more abundant in the hills w. of Suisun than ever before anywhere. He must, from his description, ^{I have} been taken to Green Valley, tho' he thought it was Jordan Valley. — Jan. 27.

— with Cal. Bot. Soc. to Corte Madera ridge and Mt. Tamalpais, Mar. 20.
No. 11, 560. *Minulus douglasii* Gray.
Acaulescent; lower lip obsolete nearly; upper lip erect; corolla red; anthers in pairs under upper lip; 2 yellow spots on lower side, as if imitating the anthers of upper side. Mill Valley.

No. 11, 561. *Barbarea vulgaris* R. & G. = *B. orthoceras* Ledeb. var. *dolichocarpa* ^{Herz.} A curiously dwarf form on moist gravelly spots in the Chaparral. Mt. Tamalpais.

No. 11, 562. *Ericameria arborescens* ^{Ridge} Cortez Madera. Seedlings on burn.
No. 11, 563. *Soliva sessilis*

Mt. Tainia, Mar. 20, '27.

Beaten ground. Alto sta.

No. 11, 564. *Oenothera ovata* Nutt.

Open slope, Alto sta.

Berkeley

- Winslow, C. F. The author of the combination, *Taxodium washingtonianum* (Calif. Farmer, 1954), was apparently something of a scientific man, cf. his article upon a mortar from the Rhine (Proc. Bost. Soc. Nat. Hist., 14:20, 1870.), being a letter from Heidelberg, Germany, Mar. 31, 1868.

No. 11, 565. *Centaurea*

Vacaville (Little Oak Ranch).

* cf. Sudworth, Div. of Agr. Bull. 17, p. 28 (1898).

Berkeley to Tracy, Apr. 7, 1927

- Left Berkeley at 10.00 am. at Livermore the starter would not turn the motor over, succeeded in cranking the motor and went on to Tracy at 12.30. The afternoon spent in the ^{Joe} Payne Repair Station, a mechanic named Diebold working the afternoon on the car and into the night. Stopped over night with my friends the Arnolds. Mr. Arnold says there will be a very fine crop of grain about Tracy this summer. As to prices that is another matter. An attempt has been made to bring in a bean industry, - a sort of graft from Ventura. Beans succeeded pretty well the first year (last year) but the growers got 3 cents instead of a normal of 12 cents. In the morning - my car is ready and I drive south to Los Banos. Near Patterson

there are fine fields of:

No. 11,566. *Orthocarpus purpureus*.
Cens.

I also collect:

✓ No. 11,567. *Plagiobothrys*

✓ No. 11,567a. *Amsinckia intermedia* F. & M.

✓ No. 11,568. *Trifolium tridentatum*
Binkl.

✓ No. 11,569. *Lotus subpinnatus*
Lag.

✓ No. 11,570. *Lupinus hindsii*
ssp. *microphyllus*

All the above on the level
plain. Fine fields of *Phacelia tan-*
acetifolia near Tracy.

The first ridge, the barren one, of
the Coast Ranges, is wonderfully
embellished today. The light green
slopes bear almost burnished
gold spots of color, 5, 10, 15 acres,
on their summits and swales.
These flashing adornments
are wonderful to look at. It

Labels for spms.
11,566 to 11,639
may have been
written 1926; correct to
1927. T. Mason

Stanislaus Co. April 8, 1927 26

is a fleeting show. Probably not for more than a week.

Just north of Patterson a fair-sized creek is crossed. It has in it a small but living stream which rather plainly comes from the Coast Ranges west.

From Crows Landing to Newman the lower levels of the valley lying between the San Joaquin River and the highway which I am following are extensively planted with rows of Lombardy poplars. Not elsewhere in California do I know so much of it. To the west of this highway and extending to the foot of the Coast Ranges is mostly barren plain.

To the west of Los Banos the sharp Coast Range peaks show up splendidly today. Pacheco, Santa Ana, etc. To the west of Los

Palos are two very slender finger-like peaks, rather low-lying in the Coast Range assemblage, but very prominent from here. I camp by the highway south of Dos Palos and have a mid-day meal. I go on to Mendota.

no. 11,570a. *Lepidium dictyolium* Gray.
with 11,571

no. 11,571. *Plantago*

alkaline flats. Los Banos.

no. 11,572. *Baeria* *Lathenia chrysantha*
x *L. glabrata*. Los Banos, Merced Co.

no. 11,573. *Lepidium acutidens*
Howell. Former spring pools, beds of Dos Palos.

no. 11,574. *Lepidium acutidens*?
Howell with 11,573.

no. 11,575. *Monolepis*
with 11,573.

no. 11,576. *Lepidium acutidens*
Howell. Los Banos

no. 11,577. *Lepidium dictyolium* Gray.
See p. 29.

- I travel easterly from Mendota, cross a river-like slough and on the wide mostly unimproved ^(= Lone Willows road sta.) plains some five or seven miles easterly from the slough, about in the center of the thinly inhabited part, I stop and collect no. 11,577 and the following numbers. c. 190 ft. alt.

no. 11,577a. *Orthocarpus purpurascens* Oth.

no. 11,578. *Microseris campestris*
578a " elegans

no. 11,579. *Bromus rubens* L.

no. 11,580. *Bromus mollis* L.

This grass common.

no. 11,581. *Bromus arenarius* Labill.

A common grass

no. 11,582. *Hordeum depressum* (Scribn. & Smith) Rydb. [Det. Beecher Crampton, Jan. 1933]
Common grass

no. 11,583. *Baeria*

no. 11,584. *Trifolium amplexens* P.
For a sheet separated from this, see no. 13,735.
+ J.

no. 11,585. *Trifolium gracilentum*
var. *inconspicuum* Pers. J. & G.

80 Tipton, San Joaquin Val.

C. 290 ft.

- I run on to Fresno, thence south, stop over night south of Selma, and near Tipton I collect the following:

✓ No. 11, 586. *Orthocarpus purpurascens* Bth. Goshen. 290 ft.

✓ No. 11, 587. *Orthocarpus attenuatus* Gray. With 11, 586.

✓ No. 11, 588. *Plagiobothrys canescens* Bth.

✓ No. 11, 589. *Lupinus subornus* C. P. Sm.

var. *Racemes* showy, a beautiful pinkish lavender. The main (or pale central) axis ends in a rather long-peduncled raceme. This axis is leafy only at the ground or at least basally and bears axillary ^{simple} flowering branches; these are, however, leafy above!! but naked below. Common locally.

✓ No. 11, 590 *Elygo californica*
Tipton

ley (Tulare Co.) April 9, 1927.

31

✓ No. 11, 591. *Gilia tricolor* Bth. var. *longipedicellata* ^{Greenm.} Tipton.

✓ No. 11, 592. *Oenothera* ** *dentata* Sav. var. *campestris* Jepson.

✓ No. 11, 593. *Amsinckia intermedia* F. & M.

✓ No. 11, 594. *Mentzelia affinis* Greene.

✓ No. 11, 595. *Orthocarpus*
A single white-bracted individual.

✓ No. 11, 596. *Zillaea minima* Miers. = *T. erecta* ^{H. & A.} This is the only *Crassulaceae* species which grows in the Great Valley*. In a characteristic spot: gravelly (finely), destitute of other vegetation. It is our most widespread member of the family, probably. [* saw *T. aquatica*.]

** Pearson says this is different from the desert "campestris"; "finer-leaved".

32 Famoso, n. of Bakersfield

-No. 11,597. *Linanthus* ^{c. 400 ft.} *vallicola* Jepson.
liniflorus Greene var.

Famoso; near Bakersfield. Cor. white.

-No. 11,598. *Lepidium dictyotum* Gray.

-No. 11,599. *Lepidium dictyotum* v. Gray.

-No. 11,600. *Baeria*

Notice the fasciated specimen!

-No. 11,601. *Epilobium glaberrimum*

Barbey. This epilobioid is very common, tho' inconspicuous and easily disregarded in a general survey.

-No. 11,602. *Baeria*

-No. 11,603. *Mulla maritima* (Tor.) Wats.

The stamens erect from above base of perianth-segments which are slightly united.

-No. 11,604. *Astragalus lentiginosus*
var. *nigricollis* ^{Geo. Jones.} *Stems* several from the root-crown, ascending! Corolla

April 9, 1927.

33 Kern Co.
purple.

-No. 11,605. *Astragalus oxyphysus* Gray.
Stems many from the root-crown, erect, 2 to 3 ft. high. Cor. whitish; that is dull or pale creamy white.

-No. 11,606. *Oenothera dentata* Cov.

Sivert, Kern Co.

→ From Tipton, see top of p. 30, I drive on southerly. On the great barren sandy elevated plain north of Bakersfield which is somewhat of the hog wallow type. The vegetation is low, grassy, rather thin but the *Astragalus* types make spots on it. The spot I collected over is near Famoso sta.

-No. 11,606 a.

Sivert sta. Gnaphaloid.

- From Famosa sta. I go on into Bakersfield, where I stop for gasoline, water and oil and drive over the plain towards Caliente. Near the base of the first hills is a station on the railway, Siverst (formerly Treva). Here the plain is deep blue for thousands of acres, covered with a dense stand of no. 11,607. I collect here nos. 11,606 to 11,607.

No. 11,607. *Lupinus nanus* Dougl.
var. *menkerae* ^{C.P. Sm.} 2000 acres a deep blue: see above.

No. 11,608. *Chaenactis*

No. 11,609. *Oenothera decorticans*
H. & A. see p. 55.

I drive on and up over the low foothills and on a steep slope with sliding dirt I collect nos. 11,608 and 11,609

This place is on Caliente Creek, westerly from Forst Bena sta.

I drive on past Bena sta. and in the hills several miles SE. I drop into a little valley where the levels are snow white with no. 11,610 (*Plagiobothrys*). The ^{*notobulvus*} hill slopes are rich with linking red carpets of *Orthocarpus purpurascens* (no. 11,611), not a few square yards in a place but evenly colored areas of 5 to 40 acres, so thickly does it grow! These hills are in gold attire because very wide slopes are delicately blue with *Gilia tricolor* (no. 11,612), while deep blue areas owe their color to *Lupinus* (no. 11,613). It is wonderful - this far-flung flowering ^{cont. p. 36} sheen, now soft, now brilliant.

- 865 ft.
 No. 11,610. *Plagiobothrys nothoful-*
mus Gray. See p. 35
- No. 11,611. *Othocarpus purpus-*
scens. Bth. The color is dif-
 ferent from the usual or Bay
 region form. A delicate or rather
 a light but beautiful rose-
 color. See p. 35.
- No. 11,612. *Gilia tricolor* Bth. var.
longipedicellate Greenm. See p. 35.
- No. 11,613. *Lupinus nanus* Dougl.
 var. *manzanar* C.P.S. See p. 35. Large flwd.
- No. 11,614. *Lupinus bicolor* Lindl.
 Small flwd.
- No. 11,615. *Festuca reflexa* Buckl.
 Grass.
- No. 11,616. *Amsinckia intermedia*
 H. & M. var. *calif.* Corollas orange. Form-
 ing great spots of color.
- I climb on and up to the
 valley of Tehachapi at the
 summit of the pass. Here is

a field of twenty acres dense with
Memphila (no. 11,617). The plants
 are not masked by other
 vegetation, so that the display
 is unrestrained.

- No. 11,617. *Memphila menziesii*
 H. & A. 4050 ft. Tehachapi Valley.
 No. 11,618. *Sisymbrium sophia* T.
 Monolith.

This grew along the M. track
 and suggested introduction. A
 crucifer. 3990 ft.

H. W. Pearson says the following species
 left out of Manual:

- *Chenopodium glaucum* Baldwin
 Baker, 6680 ft., H. W. P.
- *Fragaria* coll. by Mung.
- *Streptanthus jacobaeus* (Greene).
 Guyanaca Mts., H. W. Pearson in Laguna
 Mts.
- *Carothus cuneatus* form? Pearson 5704
 Celada Cañon. Dense flower clusters,
 fls. blue.
- *Hedeoma pycnostachya* Gray. Providencia Mts.
 Mung 4127.

Pasadena, Apr. 10, 1927.

- Cont. from over:

- *Verbena officinalis* L. A new station. Otay, San Diego Co., F.W.P.- *Allium* ? Middletown,
3.3 mi. n. Pearson 6618. 3 Apr. '26.Compare with northern Cal. species.
Have Calypso Club collect.- *Gilia subnuda* Summit.
Mountain Spres. grade.- *Flaeskea* does not "work well" in "Man."

- Cont. from bottom p. 35. I drive on, up grade, to Tehachapi Valley where on a high field I am greeted by a wonderful display of *Nemophila* (no. 11, 617). My way lies past Monolith to Mohave. At Mohave it is sunset; but I drive on in the night over a broad road to Pasadena where I am welcomed at 11.00 o'clock by Frank W. Pearson and his sister Miss Mabel Pearson. I stop over Sunday with them. Cont. p. 47.

(Riverside Co.) White water, Apr. 11, 1927, 1500 ft.

- No. 11, 619. *Allium* ^{= *A. haematodes* Davidson} ~~marvini~~ David-
son. Near Banning.- No. 11, 620. *Mentzelia involucrata*
Wats. White water Bridge.- No. 11, 621. *Eriophyllum wallacei*

White water Bridge

- No. 11, 622. *Eschscholtzia*

White water Bridge

(Discarded, insect damaged)
- No. 11, 623. *Chaenactis*

White water Bridge

- No. 11, 624. *Eriogonum thomasi* Torr.
~~*Oxytheca*~~

White water Bridge

- No. 11, 625. *Eriogonum pusillum* T. & G.

White water Bridge

- No. 11, 626. *Bebbia*

Pearson exclaims in

delight at the sight of one particular bush, it is so full, so regular, so abundantly flower-headed. White water Bridge.

Whitewater, Apr. 11, 1927.

Riverside Co.

1500 ft.

- No. 11,627. *Lotus junceus* Greene.

Pearson says this is a different form from the usual coast form. It is thicker, denser in habit, forming a low compact rounded bush. = *L. scoparius* Otley.

- No. 11,628. *Physalis crassifolia* Bth.

For three or four inches at base this solanaceous plant has a very woody stock or base.

- No. 11,629. *Sphaeralcea exilis* (Gray) Greene.

This malvoid plant grows in the tiny washes.

- No. 11,630. *Lupinus shockleyi* Wats.

- No. 11,631. *Astragalus coulteri* Bth.

Corollas lilac-purple. Stems several from the woody root-crown, erect. Sand-dunes near Palm Sprs. Sta.

- No. 11,632. *Monoptilon*

with 11,631

- No. 11,633. (Discarded, insect damaged)

Some Herb. Labels for spms.

11,566 to 11,639

may have been

written 1926;

correct to year

1927.

c. 250 ft.) Painted Cañon, Mecca, ^{Hill 5} Apr. 12, 1927. 41
- Cont. → Persson collected this (11,633).

• No. 11,634. *Hoffmannseggia microphylla*

Torr. Cañon slopes; stems numerous from the base, $\frac{1}{4}$ to $\frac{1}{2}$ in. diam., the very base sometimes a stock 1 in. diam. Plants 3 to 5 ft. h.; erect. The bushes, many stemmed, were common on the walls and edges of the flats in Painted Cañon. Exceedingly typical switch plant.

• No. 11,635. *Cryptantha maritima* Greene. Sandy washes. Corollas white ^{minute}

• No. 11,635a. *Cryptantha maritima* Greene var. *filosa* Torr. with no. 11,635.

• No. 11,636. *Cryptantha angustifolia* (Torr.) Greene. with 11,635.

• No. 11,637. *Dalea mollis* Bth.

• No. 11,638. *Lupinus sparsiflorus* = *L. arizonicus* (Wats.) Keats.
Bth. var. Corollas lilac. Sandy wash. $\uparrow$ *barbatulus* Schornber

• No. 11,639. *Lotus tomentellus* Greene.
Sandy wash;

leaflets trough-shaped; fleshy.

No. 11,640. *Lotus salicifolius* Greene
var. *brevicollis* (nos. 11,640, 11,641)
leaflets plane, fleshy.

Corollas minute as compared with those of 11,639. Sandy wash.

No. 11,641. *Striplotis hymenophylla*
Remarkably heavy fruiting shrub.

No. 11,642. *Eriogonum inflatum*
Sandy slopes, cañon walls.

No. 11,643. *Gilia latifolia* Wats.
Cañon walls, sandy soil.

No. 11,644. *Lycium*
Shrub 5 to 6 ft. h. Leaves fleshy. Corolla lilac, the base of the lobes with a deep lilac or purple spot. Berry oblong! reddish yellow or somewhat orange. Most of the fruits are distorted or irregular in shape as a result of insect stings.

No. 11,645. *Plantago*

Sandy flats.

No. 11,646. *Mentzelia involucrata* Wats.

Cor. straw-color, pinkish-tinged - below
= *p. heterocarpa*

No. 11,647. *Pentstemon kamialata* A. S. G.
var. *spissa* *Japan* Sandy slopes.

No. 11,648. *Phacelia crenulata* Torr.

See p. 48. Corolla purple. Sandy flats.
No. 11,648a. *Perityle emoryi*
Sandy pockets amongst rocks.

No. 11,649. *Sphaeralcea ambigua* Gray
Cor. deep apricot color.

No. 11,650. *Aster cognatus* Hall
Bush 2 to 3 ft. h; rays lilac-blue. Cañon wall. Shrub.

No. 11,651. *Nicotiana trigonophylla* Dunal. Sandy wash flat.

No. 11,652. *Eschscholzia minutiflora* Wats. Small canary-yellow corollas; Sandy wash flat.

No. 11,653. "With the preceding and quite like it but the ^{basal bunch of} leaves more distinctly "truncate"; tufted at base. See no. 11,648a; also p. 49.

See also no. 11,652.

No. 11,654. *Cryptantha barbigera*^{Hille}
Greene. Sandy slopes in cañon.

No. 11,655. *Eriogonum thomasi* Torr.

This eriogonoid plant is common and grows individually 3 to 4 in. h. Sandy slopes in cañon.

No. 11,656. *Senecio mohavensis*^{Gray}
Sandy slopes, in cañon.

No. 11,657. *Thelypodium lasiophyllum*
(H.A.) Greene. This crucifer grew on sandy slopes in the cañon. I threw it in with var. *utahense* (Rydb.).

No. 11,658. *Acanthopappus phaeocephalus* Gray
Whiteater

No. 11,659. *Langloisia setosissima*
(F. & G.) Greene. Corolla lilac, regular!
Sandy slopes. ^{uniform}

No. 11,660. *Atrichoseris platyphylla*ⁿ
Sandy slopes in cañon.

No. 11,661. *Mohavea confertiflora*
(DB). Cor. straw-color, the

"palate" on lower lip purple. Corolla lobes sprinkled with purple dots.

No. 11,662. *Flagonia californica* Bth. var. ~~glutinos~~^{glutinos}
~~glutinos~~ Petals a lively purple, ^a ~~a~~ ^{very} bright purple, broadly ovate, obtuse, clawed, spreading, the claws exserted from between the sepals, which seem quite distinct from the lobes or receptacle crown below. Stamens 10, yst. low.

No. 11,663. *Psathyrotes annua*
racinosissima (Torr.) Gray
Sandy flat.

No. 11,664. *Chaenactis*
Sandy gravelly slope in cañon.

No. 11,665. *Chorizanthe rigida*
Gravelly slopes.

No. 11,666. *Achyrocline* ~~cooperi~~^{cooperi}
cooperi T. & G.
Sandy slopes in cañon.

No. 11,667. *Chorizanthe* =
Sandy slopes, cañon walls. Cont.
p. 46.

* Sheet consists of a single plant (much of it cut away), except one little dwarf. Stems very fleshy! and very brittle.

~~*Dudleya saxosa* ssp. *abides*~~
 No. 11,668. *Cotyledon lanceolata*
 The infl. in drying has expanded a lot. 1500 ft. B. & W.
 Stems and calyxes pink-red! Petals greenish-yellow, acute. Leaves fleshy, narrow-lanceolate, almost semi-terete. White water Bridge. No. 11,668a. See below.

-Cont. 11,667. Perianth whitish. Stamens 6 (3 long, 3 short), on middle of perianth tube! Involucre transversely corrugated. Stems and branchlets very brittle. Involucre solitary in the axils of the opposite bracts, and solitary in the forks of the forked stems, but all crowded so as to make a dense inflorescence.

No. 11,669. *Ditaxis lanceolata* Pax & Hoffm.
Argythamnia sericophylla Gray. Petals white or nearly, lance-ovate, truncately narrowed to short claws! Painted Cañon.

No. 11,668a. *Eschscholtzia*
 Painted Cañon. Sandy slopes.

Monday, Mr. Pearson and I start for the Colorado Desert. Near Bannering, on a hilltop, in red soil, we stop and collect *Allium marvinii* Davidson. This is the type locality. It looks to my eye like *Allium haematociton* but Mr. Pearson thinks it is somewhat different.

The San Gabriel and San Bernardino ranges are under snow rather low in the foothills. It is a magnificent sight. It is, however, bitter cold, a sharp high wind blowing, and occasional bursts of rain. We run through San Geronimo Pass and, just below White water bridge, we stop and collect nos. 11,620-11,629. Beyond Palm Springs station we stop again in the sand-dunes and collect nos. 11,630-11,633.

We run on to Indio and Mecca. At Mecca we take the road to Blythe and at 4 miles turn off it and run three miles into Painted Cañon. We go up it about a mile and camp in an attractive spot. The hills look rather barren, but the cañon walls have a fine lot of things. ^{p. 41-46.} See here, ex-
 amines Pearson, here is *Chorizanthe rigida* ^(no. 11, 665); and there is *Phacelia latifolia*. And what a wonderful color is *Phacelia crenulata* (no. 11, 648). And what is that, he asks, as I pick up *Chorizanthe corrugata* ^{v. (no. 11, 667)}. This latter is common in one spot on the wall and is fully bedecked with its lower leaves. *Mentzelia* (no. 11, 646) is in splendid

flower. We collect a series of the no. 11, 652 (*Eschscholzia*

). This latter species occurs not only in the small-flowered form, but also in a large flowered form (no. 11, 668) which Pearson says is not different specifically. *Senecio mohavensis* is common, occurring in patches on the sandy banks by the washes of the cañon (no. 11, 656). Pearson is delighted to find sufficient specimens of *Atrichoseris platyphylla* (no. 11, 660), for it is rather a rarity in collections. *Aster cognatus* is a showy bush in the cañon (no. 11, 650). We run into a gold pocket of fine things every little while. We work up one lateral cañon until it narrows so that one can touch the walls on either

hand with his arms, the walls vertical and 50 to 70 ft. high. This morning early we are greeted by the cheerful caw of crows flying over. The cañon is a typical box cañon with the walls in many different tints of pastel colors: browns, slates, grays, pinks, burnt umbers.

No. 11,670. *Oligomeria linifolia* Mcbr.

No. 11,671. *Brandegea bigelovii* Cogn.

No. 11,672. *Phacelia distans* Bth.
Corolla azure.

blue.

No. 11,673. *Philibertia hirtella* Parisf.

No. 11,674. *Beloperone californica* Bth.

No. 11,675. *Cryptantha racemosa*
Greene.

No. 11,676. *Cryptantha barbigera*
Greene.

No. 11,677. *Chorizanthe*

No. 11,678. *Cryptantha holoptera*
Mcbr. Sandy banks

No. 11,679. *Eriogonum deflexum*
Sandy gravelly

slopes, the branches at summit of main axis radiating nearly horizontally, dichotomously branched and bearing the flowers on the under side. The effect is peculiar and distinctive.

No. 11,680. ^{Eremalche} *Sphaeralcea rotundifolia* Jepson. This plant is a lovely thing and is a great favorite of Pearson.

No. 11,681. *Heymeisteria plurisetia* Gray. This is a very distinctive composite with its lance-shaped leaves. The bush is flowering profusely. Both of us remember poking around in cañons on the west side of the Colorado Desert

trying to get a branchlet with a head on it! And here is a bush with thousands!

No. 11,682. *Percephyllum schottii* (Gray) Gray

This is another bush that is fat with prosperity this year. It is incredibly rich in its abundance of heads and carrying with this a fullness and plenteous air that is so different from the desert shrubs in the arid wastes - when there has been no rain for years - their lank and starved and scraggled appearance, lean and forlorn.

No. 11,683. *Parosela schottii* H. & A.

Corolla a royal indigo purple. Few other plants in California have a color ^{of this kind} so wonderful - perhaps *Delphinium variegatum*.

No. 11,684. *Cercidium floridum* Benth. = *C. torreyanum* Sarg.

The Palo Verde trees are scattered individuals in the wash,

but, fully covered with golden-yellow bloom, each one is an ornamental landmark in the wash today. The flowers have a vernal delicacy of color.

Mouth of Painted Cañon.

We move down to mouth of cañon and camp for the night.* Night hawks fly low over the mesa as we set our tents and get supper. A wonderful view of Santa Rosa Peak, its summit pocked with snow, and of Mt. San Jacinto, its high snow fields making a great show. Over the desert southerly I can look towards the "Narrows" that lie outside Barrego Valley.

* "Lower camp" of p. 54, p. 56.

- ✓ No. 11,685. *Fogonia californica* Bth.
 ✓ No. 11,686. *Petalonyx thurberi* Gray.
 This bush about 2 ft. h.
 ✓ No. 11,687. ^{C. Palmeri} *Coldenia brevicalyx* Wats.
 Lavender campanulate
 corollas. Bush 16 in. h.*
 ✓ No. 11,688. *Balandrinia ambigua*
 Howell. Sandy hills. F.W. Peirson.
 The style-branches are 3, as said in
 the book, but they are so short that
 some care has to be used, under a
 dissecting lens, to make them out.
 The three stigmas are conspicuous.
 Recombine description in Man. as follows:
 Key: Style branches 3, stigmas 3.
 Diagnosis: leaves subterete, they are so
 very fleshy.

* Stamens 2 short, 2 longer, one
 longer than the middle pair, all
 inserted midway of the light-colored
 part of tube, the dilated portion below
 quite evident. ^{adnate}

List of species in Painted Cañon not taken
 in specimen: F. W. Peirson.

Prosopis juliflora
Acacia greggii
Hypoxis emeryi
Chilopsis linearis
Hymenoclea salsola
Olneya tesota
Parosela spinosa
Trichoptilium incisum
Eidestromia oblongifolia
Larrea glutinosa
Frauseria dumosa
Petalonyx thurberi
Eucelia farinosa
Geraea eriocephala
Bebbia juncea
Cercidium torreyanum
Leonuris arborea

this found K. 1964
 L. R. in

- missing numbers: In some way the
 following sheets disappeared: nos. 11,566;
 11,609; 11,693; 11,808. I cannot
 see where they went unless lost in
 changing drawers at Pasadena. The
 changing there, was not done by
 myself, but by F. W. Peirson.

North of Painted Cañon, Mecca, ^{Hills,}
Riverside Co.

No. 11, 689. *Eriogonum thomasi* Torr.
 Abundant on the flats of the
 wash.

No. 11, 690. *Eriogonum trichopodium*
inflatum var. *inflatum* Torr.

All are plants from
 4 in. to 3 ft. h! Younger plants
 with fine leaf rosettes still.

Robust plants often show leafy
 bracts at the first (or second)
 nodes; just as mutilated plants
 may be induced to produce them.
 The smaller plants seem to be bract-
 less, that is naked. This species
 is very abundant and covers
 the lower slopes of one of the
 small cañons we went into.

- Opposite our lower camp are some
 mud hills, as if a dark brownish
 mud had been poured out. The
 surface cracks a little, not excess-
 ively - the notable thing being that
 not a solitary plant of any kind grows
 on them, this being different from even
 the most sterile and arid desert slopes.

c. 150 ft. Painted Cañon, Mecca ⁵⁷
 13 Apr. '27.

- The camp in Painted Cañon was a fine
 one - highly picturesque setting.
 Humming birds at dawn are working
 on the flowers of *Hyptis emoryi* ^{cont. p. 57.}

No. 11, 691. *Parosela*
 Wash. Tow, spreading, 10 in. h. Lower camp.

- At the lower camp I notice *Lup-
 inus sparsiflorus* (no. 11, 638) 2 ft.
 high. *Psathyrotes annua*, a low
 round full mound 20 inches across.
 No. 11, 690a. *Parosela emoryi* (Gray) Hal.

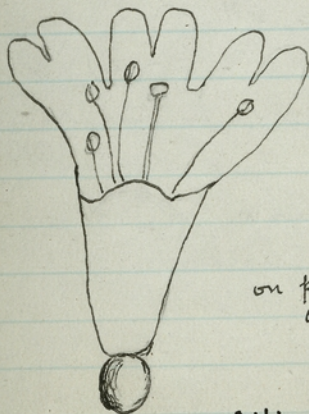
- H. W. Peirson says:

1. That *Coldenia canescens* is not in Cal.
 acc. to J. M. Johnston.
2. That *Ribes indecorum* is distinct
 from *R. malvaecum*, the former being
 darker and smaller in its leaves.
Indecorum has short flower clusters.
3. That var. *umbellum* is distinct from
Eriophyllum wallacii. "It is a
 beautiful little thing which I got in
 the Laguna Mts. and I think it is
 quite distinct" - H. W. Peirson.

cont. from p. 57. - their wings almost
as sweet and clear as the whirr of
a bell in the calm, the utter quiet, the level stillness
of the desert cañons.

- we go to Merca; buy a steak; take on
water; go ss. on the Brawley road and
run too far (and too fast) to see the Seven-
teen Palms trail; come back at same pace
(too fast) and go up a wash on the
say-so of a young fellow at one
of the road-working camps. We fol-
low up this wash eight miles, in a
cañon. The way is often difficult.
Four times we have to clear a path;
three of these times to remove very
soft sandstone which has fallen
from the walls into the bottom of
the wash. We reach a point where
we stop. I judge this is about
- 1000 feet (at least) and under (NE)
of the highest point (2696 ft.) ^{Point} north
of Seventeen Palms. ^{See Indio Topog. Map.} We are in the foot-
hills of the ss. end of the Santa
Rosa Range. I call the cañon

Silent Cañon. There are no mammals
at all apparent and only a few small
birds.



Stamens inserted low
on perianth-tube just above
ovary, i.e. near constriction
above ovary.

= *Allionia*

No. 11,691a *Weddellia incarnata* Ckl.

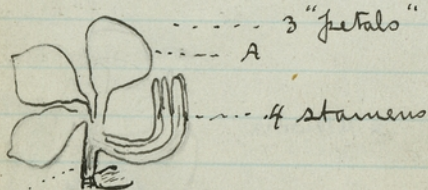
Perianth a real purple.
^{rose-}

very beautiful, the cluster of 3 = 3 to 4
lines broad; a single fl. ^{lies} $1\frac{1}{2}$ to 2 lines
broad. The cluster simulates a
single fl. Anthers yellow. Perianth with
the inner lobes reduced to a short entire
rounded lobe. Stamens 4. Style ov;
stigma capitate, white (no. flesh-
color). Trailing over ground. Involu-
cral bracts 3, hairy, glandular, ovate.

Se. end Santa Rosa Mt., foothills, 1000
(Silent Canyon)

No. 11,692. *Krameria parvifolia* Bth.

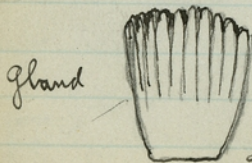
Sepals 5, deep purple, roundish-ovate, the lateral a little broader than the upper. Stamens 4. Ovary white-hairy with glandular points intermixed. Upper side of flower with 3 clawed petals. Lower side with 2 ^{small} broad glandular processes.



column

base of ovary

See the petals stand erect like "A" but the other two ^{of base} turned downwards in order to be readily drawn in the field.



Gland

The glands, of which there are 2 similar ones, look as if composed of a number of sterile filaments laterally joined. These portions are joined to top and glandular at tip.

fl. circa.

April 14, 1927. Riverside, Cal.
No. 11,693. *Parityle emoryi* Benth.

Rays 10, 10, 9, 8, 10.

Rays white. Somewhat Anthemis-estula-like flower. Very common. (Spec. apparently missing. May '27.)
See 11,703.

No. 11,694. *Phacelia crenulata* Torr.

Cor. purple with whitish eye.

Scales with broad rounded free part which curve in such a way as to receive the filament in a pocket-like opening or somewhat umbilicus-like structure. Sandy-gravelly slopes. Common. Grows 3 times as high.

Cont. no. 11,692. The 3 petals and the stamens are distinctly joined into a column by their bases. The stamens are ^{only} morphologically speaking "on the upper side of the flower, that is above the ovary. Bracts of pedicel 2.

Se. end Santa Rosa foothills (Silent
Canyon)

- no. 11,695. *Langloisia setosissima* (T. & G.) Greene. Calyx-segment narrow, the bristle tipping it as long or slightly longer and equalling the lilac corolla-tube. Corolla pale lilac, Common on gravelly hills.
- no. 11,696. *Trichophilium incisum* Gray. Paleae 5, broadly lanceolate, beautifully and regularly lacinate into fine setae. Gravelly hills; decumbent or ascending.
- no. 11,697. *Parosela emoryi* (Gray) H. & A. Low spreading bush 2 ft. h. Keel petals broad, rounded, longer a little and decidedly broader than the wing petals which in turn are obviously longer than the broad or orbicular banner which has a whitish center. Petals reddish-purple.
- no. 11,698. *Hesperocallis undulata* Gray. Leaves lying along the ground, very wavy-margined, the

April 14, 1927. Riverside Co.

- leaves somewhat trough-like and with the undulation of the margin having a somewhat serpent-like effect.
- no. 11,699. *Franseria dumosa* Gray. Attractive-looking shrubs this year!
- no. 11,700. *Plantago insularis* Eastw. var. *scariosa*. All over the sandy-gravelly hills. Jepson.
- no. 11,701. *Chorizanthe rigida* Torr. with 11,700.
- no. 11,702. *Chorizanthe corrugata* (Torr.) T. & G. with 11,700.
- no. 11,703. *Parityle emoryi* Benth. Very common. Plants occur 3 times as large. Lower leaves very fleshy-succulent. Sandy-gravelly soil. Fuchsia-cotula-like flowers. See 11,693.
- no. 11,704. *Parosela* ^{*californica*} ~~*schottii*~~ H. & A. Vail. 3 ft. h., broad bush. Royal-purple flowers.

No. 11,705. *Refinocniza neo-mexicana*
Gray.

No. 11,706. *Oenothera scapoidea* T. & G.

var. *aurantiaca* Wats. Leaves very brittle-fleshy.

Racemes helicoid! the coiled tip turned toward the morning sun as I notice them now. Sandy flats.

No. 11,707. *Mirabilis laevis* (Benth.) Covson. Very floriferous.

No. 11,708. *Chaenactis Peirsonii* Jepson n. sp. 1½ to 3 ft. h., forming extensive colonies on the sandy-gravelly cañon walls; it is the most abundant thing up here. 1200 ft.

No. 11,709. *Geraea canescens* F. & G. See vol. 45, p. 72. Oasis sta. The most abundant and wide-spread thing on the desert.

No. 11,710. *Astragalus freussii* Gray, = *A. crocalariae* Gray

Oasis sta. Common all the way to

Kane Spr.

No. 11,711. *Polygonum*
Oasis sta.

No. 11,711a. *Astragalus*

Mecca.

We camp over night in the bottom of the cañon, that is in the wash.

Lesperocallis undulatus forms large gardens. It is now mostly in fruit. *Fouquieria splendens* occurs frequently, its flowering red torches of flowers now adorning the tips of the cactus-like stems. *Parosela spinosa* inhabits the bed of the wash. The walls are whitened by *Chaenactis Peirsonii* Jepson, no. 11,708. Amazingly large plants of no. 11,696 (*Trichoptilium incisum* Gray) grow on the gravelly slopes.

"Would that it were daylight the night ^{there} so that I might go on collecting all the time! I just love to collect! I have set myself the task of making a few good specimens, really superior, fine-looking specimens of all flowering species in Southern California. That seems to me a worthy enough ambition" - H. W. Peirson.

No. 11,711b. *Astragalus*. See p. 74 and a useful one!"
No. 11,712. *Aster*. See p. 74.
No. 11,713. *Lycium*. See p. 74. *L. brevipes* Bth.
No. 11,714. *Asclepias*. See p. 74. *viricarpa* Bth.
No. 11,715. *Aster*. → see p. 74. → *A. oreuttii*

We come down out of Silent Canyon and run along the highway but fail to pick up the trail to Sevanteen Palms. Come on to Brawley, a prosperous well-built town in the irrigation district; then to El Centro; to Holtville, camping a few miles east in the sandy desert. A side-winder comes into camp in the evening and we have some difficulty finding and dispatching him. We see their tracks all over the desert sands - that is tracks of side-winders.

This level plain carries few ^{species} of plants.

No. 11,716. *Lithyrea californica* Harv.
Common.

No. 11,717. *Baileya ~~pauciflora~~ radicata*
Fairly common.

No. 11,718. *Plantago*
Very abundant all over the desert plain. In addition to the three above I note the following:

- *Gerardia canescens*
 - *Larrea tridentata* DC. The only conspicuous shrub; universal. var. *glutinosa*.
 - *Prosopis juliflora*, rare over the main plain.
 - *Abronia villosa*
 - *Calaforgia linearis*. Not in masses but still abundant (tho' scattered) because occurring so steadily.
- No. 11,719. *Oenothera trichocalyx* Nutt. This makes a great show with its white flowers, this morning. In places it is dominant over thousands of acres.

- F. W. Peirson says:

- *Cholisma arenaia* at base of Mountain Spr. grade with deep purple flo.
- *Trifolium monanthum*, several locs. in S. Cal.
- "*Trifolium longipes*" from San Bernardino Co., collected by Parish, Peirson. "Is not this species". Peirson says this *Trifolium* as it occurs in

Bean Valley has a deep footprint with a branching root-crown. On the other hand the real *T. longipes* of the north makes a sod and is very different, thinks Peirson who has collected both.

- Relicts in the San Bernardino Mts. and San Gabriel Mts. which are passing out, not coming in. There are species common in the north.

1. *Microstylis*

2.

3. *Parnassia*

4. *Parnassia*

Only one of the *Parnassias* occurs in the San Gabriel Mts., says Peirson, both in the San Bernardino one on one side of the range, the second on the other.

Peirson mentioned a number of such relicts or rather passing-out-locally species, all of them familiar to me. This is part of

the evidence which I am collecting regarding the progressive drying up of the climate, or at least such changes as alter profoundly or restrict the plant formations.

- *Kuhnia* occurs in Santa Ana Mts., San Gabriel Mts., also, says Peirson.

Colorado Desert Plain, McCain Spro.* Apr. 14.

- *Eucelia frutescens*
- *Gersea microcephala*, everywhere coloring the desert.
- *Fouquieria splendens*, one individual.
- *Parosela spinosa*
- *Cercidium torreyanum*, occasional.
- *Larrea*, not much of it relatively to its occurrence elsewhere.

* Cont. from p. 58. Near McCain springs (new) we enter the wash noted on p. 58.

70 ↑ Sandhills near Gray's Well,
Algodones ^{Imperial Co.} SE. Colorado Desert, 2000 ft.

The vegetation is rather sparse but highly interesting. As usual there does not look to be much (as we go running by) but we stop and find:

- ✓ No. 11.720. *Astragalus douglasii* Gray
var. *piscina* [Fernald] 14 to 20 in. high, erect. Banner purple with large white center, the sides turned back. Wings much shorter, whitish and purple, longer than the small concealed purple keel. Very common. (= *A. oscarpus* Gray var. *piscinus* Jepson.)

- ✓ No. 11.721. *Ephedra*
2 1/2 to 3 ft. h.

- ✓ No. 11.722. *Palafoxia linearis* Lag.
Most remarkable plants.
They form open perennial bushes up to 5 ft. 6 in. high! with main stem 4 1/2 in. in circumference at ground! Quite erect.

- ✓ No. 11.723. *Parosela emoryi* Hel.
Bushes up to 3 ft. h. and 6 ft. broad.

April 15, 1927

71

- ✓ No. 11.724. *Helianthus tophroides* Gray.
This helianthoid plant is stunning. The material brought from on the first dune by Pearson. He says it is 7 ft. h., bushy, woody at base. Cont. p. 79. 250 ft. alt.

- ✓ No. 11.725. *Eriogonum deserticola* Wats.
shrubby below, forming a low spreading bush 2 to 3 ft. h. 200 ft.

- ✓ No. 11.726. *Coldenia palmeri* Gray.
Corollas very small, pubescent. Low mounds, circular, 4 to 18 broad, 4 to 8 in. h.

- ✓ No. 11.727. *Amaranthus deflexus* L.
Fls. unisexual; ovary with 2 pectinate stigmas, that is with short hair pectinately arranged on either side; stamens 5, the filaments united by their bases into a very narrow or small disk, the ovary represented by a small or microscopic point only. Cult. field, Fort Yuma.

* Woody below.

No. 11,728. *Palafoxia*

Achenes spreading like

Achyrochaena mollis, forming a semi-globose head. The inner achenes fall first and fall readily; the marginal achenes persist (how long I do not know) but the head is very striking after the central achenes fall, because the 2 or 3 marginal ones with 1, 2, or 3 involucre bracts ^{have} spread radially! Apparently part of the involucre bracts fall readily, just as do the central achenes. The number of radiating marginal achenes is usually 2 or 3, the number of bracts 1 or 2, all spreading rigidly in one plane. Seed spm. only of the no. 11,722 of the sandhills.

No. 11,729. *Mentzelia multiflora* Gray.
Stem shining white, widely branching,
2 $\frac{3}{4}$ ft. high.

Petals 5, yellow; next there are 5 more alternate "petals", commonly but not always with an anther at the rounded apex, these "petals" a little shorter than the outer circle; next about 15 dilated filaments with anthers; about 50 to 75 stamens. Petals about 8 lines long. This is a beautiful example of petals being derived from stamens. Calyx-lobes rotate in fruit! not deciduous or scarcely so; also, rotate in flower, or commonly so.

No. 11,730. *Descurainia* ^{*verrucosum* Raf.} ~~*portulacastrum*~~
(= *S. sessile*). Sepals with a short greenish ^{on back} ~~from~~ just below apex. Styles 5! Ovary-cells 5!

No. 11,731. *Nama hispidum* Gray var. ^{*revolutum* Jepson}
I count the seeds in an at least half-mature ovary and find them to number 64!

- Cont. no. 11,712. This shrub, 2 to 3 ft. high and 3 to 5 ft. broad, full of large blooming heads occurs commonly in the wash, and is a fine sight. The prosperous bushes are truly handsome. Rays pinkish-lavender, light in tone. Silent Cañon.

- Cont. no. 11,713. Large bushes of this *Lycium* occurred at one place in the wash. 4 to 5 ft. high, 4 to 8 ft. broad. Corollas pale blue, fading dull white at once. Silent Cañon.

- Cont. no. 11,714 *Asclepias*

This stood in the wash bottom, plants 3 ft. h. Silent Cañon.

- Cont. no. 11,715. *Aster oreuttii* Gray

This shrub had remarkably spreading involueral bracts! noted by Pearson. cf. no. 11,712. Silent Cañon.

- Cont. no. 11,716. *Astragalus aridus* Gray. Silent Cañon, but not well in, as I remember; well out, - eastward.

No. 11,732. (*Aster*) *Machaeranthera*
topioides (Gray) Greene Rays purple. Colorado River
bottom at Fort Yuma. 2 $\frac{3}{4}$ ft. h.,
very bushy in habit.

No. 11,733. *Baileya pleniradiata*

Rays lively straw-yellow. River bottom

No. 11,734. *Euphorbia albomarginata* T. & G.

River bottom. Dimorphic branches! Prostrate branches, abundantly glomeriferous! Some plants, also, with erect or ascending branches of a different type of foliage and few or no flowers.

No. 11,735. *Mentzelia dispersa* Wats.

River bottom.

No. 11,736. ^{C. Palmeri} *Coldenia bracteata* Wats.

River benches

in dry gravelly soil. Low mounds 1 to 4 ft. broad, 5 to 8 in. h., circular.

No. 11,737. *Salix nigra gooddingii* Ball
Trees 25 to 35 ft. h.

No. 11.738. *Cryptantha angustifolia* Greene.
River bottom

No. 11.739. *Bebbia*

Gravel banks

No. 11.740. *Abronia umbellata* L.
River bottom. Prostrate. Perianth pink

No. 11.741. *Populus*
Tree* 50 ft. h. River bottom

No. 11.742. *Eriogonum reniforme* Torr. & Frém.
Plain, sandy, near Pilot Knob.

- *Sphaeralcea rotundifolia*.
- *Encelia fruticosa*, 4 $\frac{1}{2}$ ft. h., dense
bush 8 ft. broad.
- *Olneya tesota*
- *Cercidium torreyanum*

- F. W. Peirson says: "Jones is a nasty old man; he is a dirty-minded old man. He never says a nice thing of a woman. His relations with women, his wife and any other woman he has had intimate relations with, have never been pleasant. At first we had him to the house, to dinner or to stay all night, - but no more! We have stopped it." This comment is on Marine E. Jones.

We go into camp on the desert plain about 20 mi. n. of Pilot Knob, under an *Olneya tesota* tree. It is a pleasant evening with the moon shining full over the wide level. I turn on the headlights of the machine to examine the Yuma quadrangle map and while doing this, a fox trots boldly up into the light a few yards from us, stopping lightly out of the sandy desert, stopping a moment to examine us coolly and curiously - and then trotting

leisurely off into the desert which quickly swallows him up. I note his large ears, his bright inquisitive eyes and very bushy tail.

In the night the wind rises to a gale, blowing the sand furiously and filling me eyes, mouth, ears, bedding, clothes and all camp plunder with pendulating sand. It is a trying night.

- We go on the next morning, Apr. 16, and reach the Sand Hills, which we pass through, stopping to re-examine the Helianthoid plant no. 11, 724. The passage of the sand hills is unpleasant - The high wind still blows, driving with great force the particles against the face, biting like ^{sand} ~~cutting~~ and ground glass.

West to Holtville is a long level - an unvarying plain - all alike - mile after mile. - Larrea, Atriplex villosa and for the first part of it the shrubby Erigonum (no. 11, 725).

No. 11. 743. *Panicum urvilleanum* Kunth.

This grass grows in the sand dunes and has possibilities as a sand-binder. 250 ft. alt.

- Cont. no. 11. 724. This plant is very vigorous, very thrifty, 3 to 6 ft. h. It is one of the few plants growing amongst the high dunes. The main stem ^{2 1/2 in diam at base} branches widely from the base; the branches are opposite! but the shoots of the season (flowering ones) have alternate leaves! I note one plant which has a branch from near the base trailing along the ground for the greater part of its lower portion, which is 9 ft. long! This is an astonishingly showy plant to find in the high dunes. We note near a dozen individuals. A few miles further on, westerly margins of the dunes, we find a considerable

80. Alkaline desert plain E. of Coyote Wells
Imperial Co.

colony of smaller plants of 11,724.
somewhat

- No. 11,744. *Eriogonum thomasi* Torr.
Sand Hills near

Pilot Knob.

- No. 11,745. *Atriplex*

Alkaline desert flats east of
Coyote Wells. ^{Colorado Desert} Imperial Co.

- No. 11,746. *Achyrocnia cooperi* T. & G.
with 11,745.

- No. 11,747. *Chorizanthe corrugata*
with 11,745.

- No. 11,748. *Chorizanthe*
with 11,745.

- No. 11,749. *Monoptilon*
with 11,745.

- No. 11,750. *Balaudrinia ambigua*
with 11,745.

- No. 11,751. *Langloisia schatten* (Wats.)
(Torr.) Greene. with 11,745.

- No. 11,752. *Oenothera decorticans* H. & A.
with 11,745.

- No. 11,753. *Oenothera scapoidea* Wats.
var. *aurantiaca* Wats. with 11,745.

c. 200 ft. April 16, 1927. Imperial Co. 81

- No. 11,754. ^{= *Descurainia pinnata*} *Sisymbrium pinnatum* Greene.
with 11,745.

- No. 11,755. *Oenothera refracta* Wats.

Main stem very stout,
widely (that is bushily) branching
from the base, forming a coarse
plant with the stems tapering
rapidly to slender tips. The single
leaves in the spm. are all basal and
sub-basal.

with 11,745.

- No. 11,756. *Chaenactis carphoclinia* Gray.
with 11,745.

- No. 11,757. *Lepidium lasiocarpum*
Nutt. with 11,745.

- No. 11,758. *Cryptantha decipiens* Hel.
with 11,745.

- No. 11,759. *Monolepis*
with 11,745.

- No. 11,760. *Chenopodium*
with 11,745.

- There occurs here: *Larrea mexicana*, *Fram-
seria dumosa*, *Parosela emargi*, *Hesper-
ocallis undulata*, *Encelia fruticosa*, *Gerardia
canescens*, *Krameria* as in *Silent Canyon*, *oligo-
meris subulata*; Cont. p. 176.

- No. 11,761. *Langloisia schottii* (Torr.) Greene.
Plants prostrate or nearly. Corolla lavender, fading pink; —; a flare of purplish arches $\frac{1}{3}$ above base upper lip, that is one arch to each corolla segment; the lower lip of 2 ^{of the 3} divergent segments; sometimes the lower lip of one segment medially placed, then the upper lip of 4 segments, all then having the purplish arch. The lower lip, whether of one or two segments has no color pattern.

- No. 11,762. *Chilopsis linearis* DC.
Corollas lavender, fading pink. Washes.

- No. 11,763. *Mimulus bigelovii* Gray.
Wonderful crimson corollas.
The plants are abundant on a little granite-sand hill, forming rivulets of color down its slopes.
See p. 93.

- No. 11,764. *Mentzelia tricuspidata* Gray. No. M. *peirsonii* Jepson. Petals obovate, acute at apex, the color a satiny brownish-white difficult to describe, or? a light yellowish slate. Stamens about 60 to 80, the 2 or 3 outer rows with linear filaments, the anthers set in a notch at apex. Petals brown-veined. Inner stamens, filiform filaments. Sepals ^{with} ^{the} tips curving outward; position ^{of the} same in fruit. = M. *peirsonii* Jepson.

- No. 11,765. *Krameria grayi* Rose & Painter.
Flowers red; petals smaller than in no. 11,692 (Silent Cañon), the middle one a little smaller than the 2 lateral. Glands (lower petals) quadrangular, the outer base glandular-tesselate, purple. Lateral sepals falcate-curling upward, but spreading, the 2 upper sepals approximate, not curved. One pair of bractlets on

84 Myer's Creek Bridge, foot of Summit
(Imperial Co.) Spring grade
pedical near the flower.

✓ No. 11,766. *Cuscuta denticulata* Engelm.
On *Atriplex*.

✓ No. 11,767. *Galium*

Woody stems 2 ft. long.

In the great rocks on the canon
wall.

✓ No. 11,768. *Gheilanthes viscida*

With 11,767.

✓ No. 11,769. *Brickellia Trixis*

californica Kell. Amongst rocks.

✓ No. 11,770. *Parosela schottii* (Torr.) H. & A.

var. *Cor. purple*. Shrubs 5 to 7 ft. h.

puberula
Paysoni. This also occurred east of
Coyle Wells, but not in fl. Wash.

✓ No. 11,771. *Lupinus sparsiflorus* Bth.

var. *brun. Jepsen*, Decumbent! almost prostrate.
Granite sand flat. Corolla

blue-purple, the center of banner
white, in age the whole corolla
turning red-purple!

✓ No. 11,772. *Senecio mohavensis* Gray

Common, sandy flat

c. 800 ft.

April 17, 1927

85

✓ No. 11,773. *Gilia stellata* Heller

cf. 11,782. Corolla pale lavender,
turning pink. Granite and flats.

✓ No. 11,774. *Nicotiana*

Stem woody at base, on

below, at base $\frac{1}{2}$ in. diam. Plants
to 2 ft. h. Rocky walls.

✓ No. 11,775. *bleonella obtusifolia* Torr.

& Arem.

With 11,745.

✓ No. 11,776. *Astragalus aridus* Gray.

With 11,745.

✓ No. 11,777. *Chaenactis*

With 11,773. Sandy flats.

✓ No. 11,778. *Senecio californicus* DC.

With 11,777.

Payson says there is a succulent
variety along the ocean that
should be distinguished.

✓ No. 11,779. *Cryptantha barbigera*

Greene.

With 11,777.

✓ No. 11,780. *Monoctilon*

With 11,777

✓ No. 11,780a. *Asclepias albicincta* Wats.

See p. 93

- No. 11,781. *Simmondsia* ^{*californica* Nutt.}
No. 11,782* *Phacelia* *distans* Gr.

Granite sand flats

at mouth of little washes, same
station as 11,773. See p. 93.

- No. 11,783. *Beloperone californica* Bth.

Taken from a plant in the
wash, 11 ft. broad and 4 ft. h.

- No. 11,784. *Nemacladus*

with 11,782.

- No. 11,785. *Cryptantha pterocarya*
Greene.

with 11,782

- No. 11,786. *Sphaeralcea* ^{*S. ambigua* ssp. *rosacea*} *rosacea* M. & L.

Rocky slopes, amongst

boulders. Petals very pale lavender,
all extremely obliquely obovate;
bush apparently fallen over, the
main stem along the ground;
total height 7 ft. or rather
length. Main stem $1\frac{1}{4}$ in.
diam. at ground.

* Sheet marked *Gilia* in field, but apparently a
slip, as I appear to have no *Gilia* sheet 11,782.

- No. 11,787. *Bebbia juncea* Greene.

- No. 11,788. *Molavea confertiflora* ^{Sandy wash.} ^{Hel.}

Sandy wash.

- No. 11,789. *Oenothera scapoidea* T. & G.

var. *aurantiaca* Wats. Sandy wash.

- No. 11,790. *Lotus saliciginosus* Greene
var. *brevivillos* Otley.

Sandy wash.

- No. 11,791. *Pholisma arenarium* Nutt.

Sandy wash.

- No. 11,792. *Hyptis emoryi* Torr.

6 to 10 ft. h.

Sandy wash

- No. 11,793. *Eschscholtzia*

minutiflora (Wats).

Sandy wash

- No. 11,794.

Sandy wash.

- No. 11,795.

Sandy wash.

- No. 11,796. *Cryptantha micrantha* (Torr.)
^{Johnst.}

Sandy wash.

- No. 11,797. *Cryptantha racemosa*
Greene. Annual. Sandy bank.

- No. 11,798. *Mirabilis tenuifolia* Wats.
Perianth white, the lobes
divided by V-shaped notches
with a minute cusp in them,
lobes shortly cleft. This inter-
pretation of what is a lobe is
based on the position of the
sepal-like bracts and of the
position of the stamens, these
structures alternate with the lobes
as interpreted. Stems 3 ft. long.

- No. 11,799. *Ephedra*
Note its blue-green flo.
(Discarded, insect damaged)

- No. 11,800. *Eucelia farinosa*
An exceedingly common
shrub everywhere on rocky slopes,
the bushes very beautiful this year
with their abundance of golden
flowers. On the little flat where
our camp are large boulders,
the sand-strewn floor orna-
mented with these shrubs and

Euphorbia emeryi. One not very large
bush of no. 11,800 I estimate has
10,000 heads conservatively. The
heads promptly wither after
the rains fall.

- No. 11,801. *Hofmeisteria plurisetia* Gray
Bush 2 ft. h.

List of Plants at Myers Creek

Acacia greggii
Larrea
Franseria dumosa
Phacelia crenulata
Perityle
Palafoxia linearis
Eulobus
Gilia latifolia
Parosela spinosa
Suaeda mohavensis
Parosela emeryi
Hymenoclea salsola
Ephedra viridis
Prosopis juliflora
Phoradendron calif.
Fouquieria splendens
Parosela mollis
Emmenanthe penduliflora

Salvia columbariae
Rafinesquina monensis
Ellisia membranacea

See Jepson Corr.
vol. 22, p. 123
for Peirson list.

This list includes
only plants not
collected.

List made by
F. W. Peirson.

See also a ms.
list by Peirson
in letter file, dated
Apr. 16-17, 1927,
with letter dated
May 6, 1927.

- ✓ No. 11,802. *Castilleja foliolosa*
Rocky slopes.
- ✓ No. 11,803. *Baeria*
Sandy flats
- ✓ No. 11,804.

- ✓ No. 11,805. *Gilia pungens* Oth. var.
= *Leptodactylon*
Hallii (Parrish). Cor. pink. Rocky
slopes.

- ✓ No. 11,806. *Haplopappus linearifolius*
var. *interior* (Cov.) Jones Rocky slopes

- ✓ No. 11,807. *Prunus fremontii* Wats.
This apricot is
very springy, 5 to 8 ft. h., rocky
points.

- No. 11,808. *Psoralea gracilis*
Rocky slopes. Leaves
opposite below. See p. 55.

- ✓ No. 11,809. *Loeselia tenuifolia* Gray.
Corolla scarlet. The
lobes are quite regular, and in plants
examined in the field there was no
"bilabiation" in lobe arrangement.

[Missing numbers. See p. 55, ante.]

- ✓ No. 11,810. *Arabis pulchra* Jones var.
viridis Jepson. Cor. red-purple.
- ✓ No. 11,811. *Lycium andersonii* Gray.
Inside cor. lavender.
- ✓ No. 11,812. *Quercus*.
note the leaves very
glaucous below. Told
- ✓ No. 11,813. *Anemone drummondii* Wats.

- we worked out over the rocky country
north of camp (see p. 92) and note
Artemisia (No. 11,816) which I
suppose is *A. palmeri* and
the beautiful clumps of the *Lyfina*
(No. 11,815) with its handsome
racemes of flowers; stir up a brush
rabbit with its black tail and collect
a sheet of the odd *Linanthus* (No. 11,814)

- We climb the Mountain Springs grade, pass Mountain Springs on the east slope ^{c. 2500 ft.} a typical desert slope - and ^{we} camp in a pleasant spot on the summit, where there is a great deal of flowering. I collect nos. 11,802 to 11,8

I note the following:

Juniperus californicus
Nolina

Agave

Salvia apiana Jepson

- The flowering at this (the summit) camp is *Baeria* ^{no. 11,803}, *Chrysopsis douglasii* (no. 11,819), *Stenotaphrum* (no. 11,806). The *Loaselia* (no. 11,809), which I was so glad to see, was only just coming into flower, though the few individuals taken were in full flower. The Desert African (no. 11,807) was

- cont. p. 97.

[Cont. from p. 85. This *Asclepias* grew in the rocks, its clusters of tall stems (5 to 8 ft. h.) forming striking objects on the summits of boulder-piled crags some 60 to 100 ft. above the bed of the wash of Myers Creek. It also grew on the rocky slopes where it was equally ^{gentler} luxuriant or rather prosperous, but not so striking. No. 11,780a]

Cont. } The Camp at Myers Creek: } Cont.
no. } } from
11,782 } } p. 86.

This camp is on the north side of the wash. The wash at this point is about 450 yards wide. On the opposite side of the wash, on the sandy flats at the mouth ^{washes from} of a little cañon we find very interesting botanizing and collect nos. 11,782 to no. 11,796. Also no. 11,771 to 11,773. The beautiful *Mimulus bigelovii*, no. 11,763, occurred as rare waifs on the best of these little flats, but glorified a little ^{one} granite-sandy hill rising from its edge.

No. 11, 814. *Liananthus bigelovii* Greene.

This very small-flowered plant is inconspicuous. Going up a rocky slope, south from camp, we noticed an individual or two; but on recognizing the importance of collecting it (at first it seemed merely a small-flowered *L. dichotomus*) we had no difficulty in soon collecting material for several sheets when once searching for it. It grew about the edges of bushes mainly.

No. 11, 815. *Lupinus albifrons* Bth. var. medium. Very showy, its silvery foliage in fine contrast to its showy racemes of blue-purple fls.

Sandy spots on rocky slopes.

(Discarded, insect damaged)
No. 11, 816. *Artemisia palmeri*
Bush, 1½ to 2 ft. R. Rocky slopes.

[Cont. from top p. 80, no. 11, 724. The pappus scales are deciduous, lanceolate, quite unequal, & in number in one flower I examine. They are rather short and deciduous. What is the relation of *Helianthus minus* to this?]

No. 11, 817. *Microseris linearifolia*

Open brushy slope, sandy soil.

No. 11, 818. *Senecio californicus* DC.

Sandy crests, common.

No. 11, 819. *Coreopsis*

Very common

No. 11, 820. *Pellaea mucronata* (D.C. Eaton)D.C. Eaton var. *mucronata* This fern grew in rock crevices.

No. 11, 821.

This grass seemed rare.

Sandy slopes.

No. 11, 822. *Lotus argophyllus* Greene.

Rock crevices

No. 11, 823. *Dichelostemma pulchellum*
brochala

Sandy slopes.

No. 11,824. *Rhus ovata* Wats.

Trees very full of bloom.
I notice one broad-headed tree
18 ft. h. with a distinct trunk
14 inches in diam. a foot above
ground.

No. 11,825. *Juniperus californica*

Many stemmed shrubs,
with very stout stems. I notice
one individual, that, under wind
pressure apparently, had developed
a flattened stem 8 in. across
and 2 to 3½ inches thick. It
reminded me strongly of
similar developments in the
case of *Eupressus macrocarpa*.
Rocky slopes, 8 to 12 ft. h.

No. 11,826. *Clematis*

Leaves very glossy.
Collected by Pearson towards
summit of rocky peak south.
He thinks it different from any
of the three species we have in

leaf. Notice its glassy leaves.

No. 11,827. *Diplacus*.

Corollas a pale or buckskin
yellow. Rocky slope, in rock
crevices.

No. 11,828. *Pentstemon clelandii*
Gray. Rocky slope. Cor. crimson.

No. 11,829. *Pinus microphylla*
Torr. & Frém. Trees on rocky slope
20 to 25 ft. h.

[We made stop in Jacumba on some shopping
excursion - a surprisingly neat little village on edge
of the desert, after leaving Mountain Spgs. camp. See below.]

- We break camp at summit of
Mountain Springs grade (a camp that
was within a few hundred yards of
the Boulder Park Inn) and run west
[see Jacumba above] over the high country, towards
Buckman Springs. The *Ceanothus*
(nos. 11,831, 11,834) are flowering
finely and make interesting these
high summits. It is in the general
neighborhood of Live Oak Springs (see road
map) that I collect nos. 11,830-37. (auto)

Live Oak Springs, in the region of;
(San Diego Co.) on high ridges

No. 11,830. *Purshia glandulosa* Curran.

In chaparral, sandy
summits. Shrub in spots here and there.

No. 11,831. *Leanolis greggii* Gray var.
~~*sericans* (Pursh) Tels.~~
Sandy summits. 3 to 5 ft. h.

No. 11,832. *Arctostaphylos glandulosa* var.
canescens Eastw. I so name this in the
field for F. W. Peirson, my travel-
ing companion, but, on reflection,
the reference seems unlikely.

No. 11,833. *Arctostaphylos*
juncea H. B. K. Shrubs 4 to
6 ft. h., common on these sandy
summits. Peirson says it is not
in the San Gabriel range.

No. 11,834. *Leanolis* ~~*obovata* Nutt.~~
oiganthus Nutt.
Flowers blue; shrubs very
floriferous and making a great
show in these chaparral-covered

c. 4000 ft. April 18, 1927

sandy summits.

- Viejas Mountain is a very prominent
landmark northwesterly from Viejas Valley.

No. 11,835. *Platystemon californicus* Benth.
2400 ft. Sandy valleys. Viejas Valley.

No. 11,836. *Gilia* ~~*multicaulis* Bth~~
angelensis V. Grant
with 11,835.

Cont. from bottom p. 92.

common and grew in the rockiest
cañons and boulder-sheer slopes,
the boulders as big as a cottage;
but also on the more open slopes
about camp. Peirson chased off
in several directions, while I was
busy with my Myers Creek plants
and came back in great excitement
with *Artemisia* no. 11,813.

a marked and interesting
extension of range, and from the
rocky peak south of camp with no
11,826 (*Clematis*).

- From Live Oak Springs and Viejas Valley we
go on through San Diego to La Jolla. p. 118

La Jolla, mesa headlands
on the ocean 200 ft.

- no. 11,837. *Castilleja*
 Bracts and flowers scarlet.
- no. 11,838. *Eriodictyon crassifolium* Bth.
 Shrubs, 6 to 8 ft. h. Corolla
 a velvety somewhat indigo blue just
 different from the color of *Eriodictyon californicum*.
- no. 11,839. *Solanum xanthi* Gray
 var. *glabrescens* Parish.
 See p. 113. The corolla is different in
 color and the leaves are darker
 than in any *Solanum* I know
 in middle or northern Cal.
- no. 11,840. *Rhus integrifolia* B. & W.
 This bush forms remark-
 ably dense thickets 3 to 5 or 6 ft.
 h., forming a sort of low, mound
 of dense weave that is a great
 protection to one's camp, against
 cold winds, here on the ocean
 headlands. The berries are rather
 strongly flattened and are
 covered with a milky secretion

candy soil. April 19, 1927, 50 ft. 101
 San Diego Co.

- that is milky in color and about as
 thick as thin cream. The low
 "mounds" may be 10 to 20 ft. broad.
- no. 11,841. *Leonothus verrucosus* Nutt.
- no. 11,841a. *Helianthemum scoparium* Nutt.
 var. *viridula* Jepson.
- no. 11,842. *Gnaphalium* = *H. Greenei* Robt!
 2 ft. h., somewhat
 "fleshy"
- no. 11,843. *Astragalus leucopsis* Torr.
 Stems few or several in a
 clump, the stem branching from the
 base upward. Flowers whitish. Plants erect,
 or rather bearing branches
- 3 ft. h. Cont. p. 111.
- no. 11,844. *Habermaria unalascensis*
 (Spreng.) S. Wats. Flowers green. In thickets.
- no. 11,845. *Orthocarpus purpureas-*
cens Bth.
- no. 11,846. *Lilaea minima* Miers.
 = *T. erecta* H. & A.
- no. 11,847. *Trifolium amplexens*
 T. & G.
- no. 11,848. *Trifolium amplexens*
 var. *truncatum* T. & G.

No. 11,849. *Zygadenus*No. 11,850. *Centunculus minimus* L.

Edges of little thickets,

a very obscure little plant which is probably more widely distributed and of more frequent occurrence than is indicated in the Manual. It is so easily overlooked. One finds it only when down on his knees looking for other things.

No. 11,850a. *Stylocline graphalioides* Nutt.No. 11,851. *Antirrhinum nuttallianum* Bth. This fooled us completely at first and for some time. We

ran on to dwarf states in the edges of thickets. These dwarfs apparently never expand their corollas and yet set fruits. It would seem as if these plants bore only cleistogamous flowers. We spent a lot of time carefully collecting these tiny dwarfs before we

realized their true nature and, by searching around, secure normal plants with large flowers and large leaves, namely:

No. 11,852. *Antirrhinum nuttallianum* Bth. Cor. purple. Notice the heavily viscid herbage. Cont. p. 117.
glandular-

No. 11,853. *Antirrhinum nuttallianum* Bth. Also: a state, intermediate in foliage at least, between nos. 11,851 and 11,853.

No. 11,854. *Dichondra occidentalis* House. Edges of thickets. Stems creeping, the flowers at the ground and apparently without corolla usually. I find only one flower with corolla, the corolla purple inside. The leaves suggested an acaulescent violet; but the young pods betray the true relationship. Flowers solitary on peduncles (axillary), the peduncles recurved abruptly above, so that the flowers are turned directly down into the soil. Cont. p. 116.

La Jolla, mesa headlands on the ocean; sandy soil.
 San Diego Co.
 No. 11, 855. *Melica imperfecta* Trin. Grass.

No. 11, 856. *Linaria*

cf. no. 11, 899. Like no. 11, 851, this also fooled us. The dwarf state grew in the same thickets as 11, 851. The reduced lower leaves "in 3's" mystified a bit too; until we got larger states and transition to the normal form of *Linaria canadensis*, which grows here on the mesa. Fls. also cleistogamous?

No. 11, 857. *Cryptantha intermedia* Greene.

No. 11, 858. *Miracris (linearifolia)*
 Corollas pale yellow, the heads 5 to 6 lines broad.

↑ flowering

No. 11, 859. *Mirabilis*

Perianth purple.

No. 11, 860. *Koeleria cristata* (L.) Pers.

Grass.

No. 11, 861. *Baeria*

No. 11, 862. *Cnemidium denudatum* Hook. f.

Petals white, broadly elliptic.
 4. Stamens 8, 4 long, 4 short, all with dilated filaments.

(Kauff.) Maxon
 No. 11, 863. *Pityrogramma triangularis*
 var. *viscosa* (Sc. Eaton) Nees. The foliage is viscid.
 This fern grew on the open sandy mesa.

No. 11, 864. *Dodecatheon clevelandii* Greene.

No. 11, 865. *Lotus nuttallianus* Greene.

No. 11, 866. *Lotus strigosus* Greene.

No. 11, 867. *Larix platyglossa* (F. & M.) Gray
 ssp. *campestris* Koch

No. 11, 868. *Festuca myuros* L.

Grass.

No. 11, 869. *Lathyrus splendens* Kell.
 Its wonderful crimson racemes of large flowers make a great show on the mesa at this time.

No. 11,870. *Coreopsis*

Rays $4\frac{1}{2}$ cm. long. The
stems are remarkably brittle. One
can scarcely touch them but
that they break! How is it the
plants stand the rough gales which
come in directly off the ocean?
Cont. p. 117. See p. 118.

No. 11,871.

Composite. Stems woody below, the
plants 2 to 3 ft. high, as in chicklets
5 ft. h. Cont. p. 112.

No. 11,872. *Argemone arvensis* L.No. 11,873. *Trifolium tridentatum*
Lindl.No. 11,874. *Astragalus didymocarpus*
H. & A.No. 11,875. *Collinsia bicolor* Bth.
See p. 118. Cont. p. 115.No. 11,876. *Lupinus* ^{*L. arvensis* (Wats.) Krat.}
~~*arvensis*~~ ^{*L. arvensis* (Wats.) Krat.}
~~var. *argemone* C. P. Sm.~~No. 11,877. *Sidalcea malvaeflora* GrayNo. 11,878. *Microseris heterocarpa*
Fl. heads pale yellow, $\frac{1}{2}$ inch broad.No. 11,879. *Lycium californicum* Torr.
Cont. p. 115. Small short white corolla.No. 11,880. *Sagina occidentalis* Wats.No. 11,881. *Amblyopappus pusillus*No. 11,882. *Delphinium Parryi*
Looks quite like *D. variegatum* in size, color, general appearance. See p. 118.No. 11,883. *Erilago arizonica* Gray
^{*rigida* ssp.}No. 11,884. *Stachys* ^{*argemone*} *argemone* Hel.
Cor. white; upper lip erect,
notched, only a little concave;
lower lip with the middle lobe
very broad, rounded, finely wavy,
a little and finely light-purple-dotted
on center. Anthers black, all de-
hiscent at once, all standing at
same height. Filaments of stamens
flattened, all hairy on edge. Calyx-
lobes triangular, cuspidate, $\frac{1}{2}$ as

La Jolla meso headlands on the ocean; sandy soil. 200 ft.
long as tube, the upper one a little longer than the others. Stem erect, from a running rootstock.

Borders of thickets. Cor. tube at middle with an oblique ring - a stockade of densely set hairs!

No. 11,885. *Pentstemon aurea* Nutt.

Heads very large and showy, the ray series as if double. Rays golden yellow. See p. 118.

No. 11,886. *Sanicula*

No. 11,887.

Grass.

No. 11,888. *Microseris heterocarpa*

No. 11,889. *Spergularia macrotheca* (Hornem.) Heyn.

No. 11,890. *Spergularia cleve-landi* Rob.

No. 11,891. *Polypodium*

April 19, 1927. San Diego Co. 109

No. 11,892. *Lupinus succulentus* Dougl.

No. 11,893. *Larmarckia aurea* Moench. Grass.

No. 11,894. *Allium psamatociton* S. Wats.
det. M. Ownbey 1950. Rocky ground. See p. 110.

No. 11,895. *Dendromecon rigida* *
Benth.

No. 11,896. *Zygadenus*

No. 11,897. *Linaria canadensis* Dum.
var. *texana* Reul. cf. no. 11,856

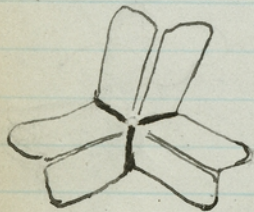
No. 11,898. *Aphanisma blitoides*
See p. 113.

* This is extremely showy on the mesa and is much more floriferous and with larger flowers than in the north.

La Jolla, mesa headlands on the ocean; sandy soil.

- Cont. no. 11, 894. Perianth segments dull white with a purple-brown line down the middle. Ovary markedly 3-lobed, the lobes crowned by a pair of purple crests; crests thick, fleshy, ^{red} somewhat quadrangular, papillate densely but finely.

Helium haematodes



Diagrammatic view of crests from above, the style showing in center. The 3

pairs of lobes spread symmetrically - not quite correctly shown in my illustration.

Filaments dilated a little at base. Perianth segments a little rhomboidal, especially the inner.

April 19, 1927

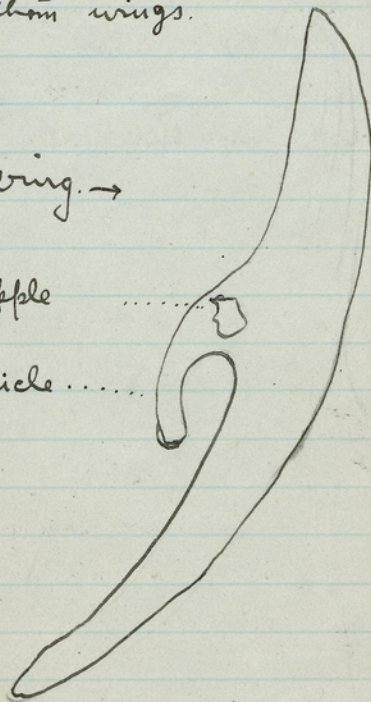
- Cont. no. 11, 843. *Astragalus*
Banner narrow, its sides recurved; longer than wings.

some after anthesis.

wing. →

nipple

auricle



auricle of wing remarkably long.

La Jolla, mesa headlands on the ocean,
sandy soil

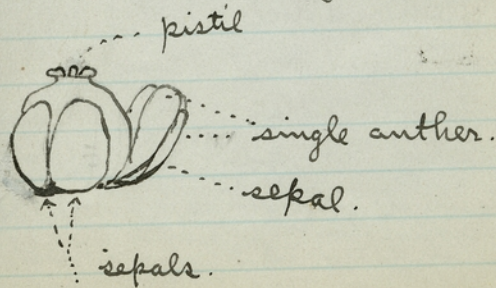
- Cont. no. 11,871. Rays yellow, 16, 21, 19.
Disk achenes flattened, long
hairy with white hairs; pappus
none. Cor. tube narrow, abruptly
expanded into throat which is
slightly constricted at middle.



April 19, 1927.

- Cont. no. 11,839. *Solanum xanti*
Corolla very shallowly lobed, its
lobes acute at apex, the sinus
between with a flowing or obtuse
secondary lobe. Filaments short,
broad, united at base. A pair
of small white spots, ^{near stamens}
^{on corolla} and opposite each lobe, each spot with
a green dot in center. Cor. blue-
purple

- Cont. no. 11,878. *Aphanisma blitoides*
This chenopodiaceous plant
with the thickly set ovate leaves
somewhat cordate at base, ^{sessile} is now
in flower and young fruit.



The style is very short, almost too short in diagram, p. 113, and the stigmas, 3, are often difficult to make out. It was better to say stigmas 3 or 2, than "style 2 or 3-cleft" [↑]the short as in Manual, p. 320.

In other flowers which I am now dissecting I find 3 rather large stigmas, which might be interpreted as 3-cleft style. However, it seems better to say stigmas 3. I find flowers with 3 stigmas, none with 2.

- *Cotyledon edule* (Nutt.) Brew. The leaves are in erect clusters and are almost terete, being exceedingly fleshy. I took a spec. for this note, its leaves 4 to 4½ in. long. I am sure I saw leaves much longer.

April 19, 1927

- *Lycium californicum* Nutt. no. 11,879.
Cont. from p. 107

Corolla narrowly short campanulate; 4-lobed. Stamens 4, their filaments with a dense and conspicuous sharply defined ring of hairs below the middle. Ovary and style glabrous.

- Cont. no. 11,875. *Collinsia*

Calyx on lower half hirsute with spreading hairs. Upper stamens with a fringe of hairs along one side below; the other pair glabrous. I saw little dif. between this and *C. bicolor* of S. F. Bay region and should not have thought of a difference save for a remark as to concolor by Pearson.

- Cont. no. 11,854. *Dichondra occidentalis* House. Corolla purple, campanulate, 5-cleft. Stamens a bit dilated downwards (that is, the filaments). Corolla lobes 5! Stamens 5! Styles 2, united only at the very base and so slightly that any field mammal user would consider them distinct. Stigmas very large, orbicular! - One fl. I note with 6 corolla-lobes and 6 stamens.

- ✓ No. 11,899. *Elatine brachysperma* Gray. Petals ^{pale} pink, equal! almost orbicular! Sepals 3, 2 herbaceous, larger than the third pinkish or petaloid one. Stamens 3.

- *Artemisia californica*
- *Brodiaea capitata*

Cont.

San Diego Co.

No. 11,851

Antirrhinum

Cor. purple. 3 lobes of lower lip equal. Upper lip cleft. Filaments dilated, the lower pair more strongly, especially at apex, and a little larger than upper pair; all a little hairy at base.*

- Cont. no. 11,870. *Coreopsis*

Corolla tube sum-

mar near summit, a few short glandular hairs on the ring. No pappus. Achenes of disk very much flattened and margined.

* Upper calyx-segment largest, the others in progressively smaller pairs all hairy with gland-tipped hairs.

— we go north from La Jolla ^{see p. 99} 3 or 4 miles and camp above the ocean bluffs on a mesa headland among a thicket of *Rhus integrifolia* (see p. 100). It is a wonderful camp, for its situation and its flowering there are probably a greater number of species in flower here than in any camp we have been (see nos. 11,837 to 11,899). The little cañon slopes

are very beautiful in their coloring of *Delphinium parryi* (no. 11,882), *Pentstemon* (no. 11,885), *Coreopsis* (no. 11,870) *Collinsia* (no. 11,875)

and many others, with salient spots of *Lathyrus splendens* (no. 11,869). I did not by any means exhaust the collecting in the short time that was available. — We travel north along the coast to Pasadena where I am the guest of Mrs. Peirson for several days.

— Santa Cruz Isl. — Mabel Peirson

Dendromecon

— On the coast road (cf. p. 118) we passed Mission San Juan Capistrano. "The site of the mission was named from the occurrence of this species of wild pea" — John P. Harrington, 7 July, 1932, in litt. The specimen (which is from Palomar Mt.) is *Lathyrus latiflorus* Greene.

Cont. from p. 122 near top. — I telephoned Mrs. Bryant and she invited me to call at her home 3210 West Adams st., Los Angeles. It was early morning. I drove into the front yard of the place which was obviously palatial. I rang the bell. The iron screen door slid back, a door as of a guarded castle, and a footman took my card, closing the iron grating and leaving me outside. At length he came back and I was admitted. He then left me standing in the hallway near the door. After a long time the footman returned and asked if I would not enter the reception room. I replied that I had been there so long I might as well remain. A woman servant on the second floor, seeing me standing there at length came down (Cont. p. 124)

- Visited today the Pasadena Junior College and High School. The building, equipment, shops, everything, is about ten or twenty times as large as the old-time type of college that I knew as a lad in California. The laboratory equipment is especially remarkable and would often shame that of a Univ. of Cal. dept. Met a number of the science men: Van Laubinfels who is interested in sponges and who is to work in west Indian waters this summer under^a grant from the Carnegie Institution;

De Ameringe, the man in Geology, who has recently been on Santa Cruz Island and who collected last summer plant fossils in the John Day Creek region of which he showed me some specimens, including *Taxodium*, *Platanus*, etc.

Van Laubinfels is a relative

by marriage of Marcus E. Jones, having married a niece of Jones. Jones' brother is a Professor of Zoology in Oberlin College; another brother lives in Pasadena.

Miss Mabel B. Pearson is head of the Science Dept., a sister of the botanical collector Frank W. Pearson. Turing is the school principal; he is to be in Oakland next year as Assistant Superintendent of Schools.

Miss Pearson says: "Edmund Jaeger, the botanist at Riverside, was invited; or rather most strongly induced and urged by Mrs. Susannah Bixby Bryant, to visit the new botanic garden at Rancho Santa Ana. Towards the end of the day Mrs. Bryant suddenly announced to Jaeger that she had an important engagement in Los Angeles and noticed of instantly leaving Jaeger stranded

miles from anywhere; leaving him to find his way by himself to a town or railroad station. Jaeger, though so gentle and retiring a man, was furious with indignation." ^{See} p. 119.

- I leave Pasadena Saturday morning April 23. westerly, from San Fernando a short distance, while on the valley level, a sharp report like an explosion sends the car (traveling at 30 or 35 miles) jolting and I find it difficult to keep it on the road. It finally whirls around, ^{goes} off the road into a ditch, headed in the opposite direction from what it was traveling. If this had occurred on a mountain grade where would we have been? It was a bursted inner tube that made a rear wheel flat almost at once; and there was loss of traction.

There was no other damage and I proceed westerly and climb into Santa Susanna Pass where I note:

Prunus ilicifolia

Lotus glaber

Rhus laurina

Salvia mellifera

Adenostoma fasciculatum

Leptodactylon californicum.

✓ No. 11,900. *Lupinus hirsutissimus* Benth. The hairs on this are bristly and stinging like a nettle. It is in its pubescence the most unusual of all the lupines.

✓ No. 11,901. *Geomeria arborea* Nutt.

✓ No. 11,902. *Convolvulus cyclostegius* House. It climbs 3 to 10 ft. h. over bushes and makes a fine show, it is so floriferous. *Simi.*

(Discarded, insect damaged)

✓ No. 11,903.

Simi. *Coronaria* var. very floriferous; also all along the ocean from Ventura to Santa Barbara.

cont. from bottom of p. 119.

and asked me to go into the reception room, apologizing in a word for the footman. I made the same reply.

Finally the secretary, came and asked me to come down into of Mrs. Bryant the library and look at a set of Curtis' Botanical Magazine which had just been acquired. So I went down to the library. Its walls were lined with book-shelves - a very large room. Here I waited a long time until Mrs. Bryant came down. When she entered she was cordial, explaining delays by the fact that she was preparing suddenly to go east. She took me into the huge and well furnished ball room to show me Ernest Brauntor's plans of the Garden of Native Plants to be founded at Rancho Santa Ana. She talked a lot about it. She does not intend to start

Apr. 20. 1927]

planting until next year and means to grow all her stock from seed, on the theory that plants thus brought up from the seedling stage will become better acclimatized to conditions at the garden than by the removal of plants from the wild. She has been advised to do this, she said; this advice from many persons being uniform. She also said that she hoped to produce seed of many plants in a wholesale way and sell this seed and make the garden self-supporting. This is a plan recently developed and was not in her mind at the beginning she said. This remark grew somewhat naturally out of my comment that there are many fine native ornamentals which are unknown to our people; and which ought to be used, both

because they are very desirable and already adapted to our soil and climate. She betrayed no apprehension of the fact that by entering the commercial field she puts her garden out of the class of commercial gardens.

↑ Botanic gardens and into the class of Mrs. Susannah Dixby Bryant is very sure of herself. She is able, keen, intelligent, shrewd and obviously a keen business woman, for she told me at considerable length in what manner she had handled the Rancho Santa Ana. Experts tell her that the 300-odd acre Valencia Orange orchard on the Rancho Santa Ana is the finest in the U. S. (? in the world). She laid it down as a guiding principle of her garden that it cannot pro-

gress, cannot go any further, than her understanding of it, that is in her life-time. She means to keep immediate and direct and sole control of it herself. She has no intention of turning it over to a Board of Trustees in her life-time. It seems that Professor H. J. Webber wrote her that he would like to come and see her new garden. She asked him to come. He took issue with her on the above point, as to the matter of "her understanding"; saying there should be a Board of Trustees, etc. Mrs. B. thinks she convinced him that she was right. [She didn't, I am sure, but I reserved comment.]

Mrs. Bryant was in a veiled way contemptuous of H. J. Webber and his suggestions. She expressed much the same attitude

towards many other people she did not name who had proffered her advice. And then she asked me for suggestions! Naturally I was not very responsive. When she pressed me I replied that perhaps my advice would be most valuable in the case of special problems as they arise; that my advice had already been taken for the most important matter thus far, namely that the plants be disposed in the garden according to soil and exposure and not according to any botanical classification.

But how she held up to some the foibles of ^{Ernest} Brampton, who has made for her the garden plan. It would seem from her account that his sense of the proprieties is not

at all developed; that he ^{is not tactful,} lacks delicacy in the personal relations; that he behaves as if he had no breeding. Probably Mrs. Bryant's servants at the West Adams st. home are much better bred in the conventions of social relations. She has trained them up and is evidently very exacting in that way. I should guess she has a dozen in this palace. Brampton evidently hurt the feelings of the Superintendent and his wife at the Rancho Santa Ana, by treating them as if they were ignorant of botany. But when Mrs. Bryant showed them how Brampton regarded Mrs. Bryant's ignorance of botany they were mollified. She showed me the Brampton correspondence. Doubtless it is ^{tactless?} rather undiplomatic in spots,

even crude as now in places, ^{gained} as the French say. One of his improprieties she told me about in detail: it seems he wrote L. H. Bailey, telling Bailey he was sure Mrs. Bryant would be much honored if he (Bailey) would visit the new botanic garden, and that Mrs. B. would be glad to invite him if she knew ^{of} anything to that effect. This horrified Mrs. Bryant, that Braumton should, in effect, be inviting persons to the Rancho Santa Ana in her name.

And much more. Mrs. Bryant was very confidential and did not conceal anything apparently. She is a woman who expects a great deal of deference from any one she hires.

Braumton is by far the best landscape design man in California in my opin-

(see p. 135 at *)
ion, certainly in Southern California. In addition he has an excellent knowledge of the native plants as well as an extensive knowledge of the garden plants cultivated in Southern California. This is for Mrs. Bryant an invaluable combination. No man, for the job, could have been brought in from the outside, because he would not have known soil and climate, not to speak of lack of knowledge of the plant materials [cf. vol. 41: 192, *supra*].

At the door, as I took leave of Mrs. Bryant, she brought up again the question of John Howell, for a botanical helper, asking if he could get a substitute for his summer's job. Mrs. B. is to be in the East three or four weeks.

It seems quite plain that Mrs. B. intends to secure stock for planting free; and all the best advice possible from experts.

- I drive* through Santa Barbara and go on in the dark evening to the El Capitan Camp by the roadside some 17 miles westerly. It is a secluded camp in a grove of sycamores and old broad-headed *Acerus agrifolia* - very beautiful and quiet.

I collect here: April 24, Sunday.

✓ No. 11,904 *Coreopsis Venegasia*

This a thick bush $4\frac{1}{2}$ ft. high is, after all, herbaceous. It is flowering finely.

✓ No. 11,905. ^{= *Descurainia pinnata*} *Eisymbrium pinnatum*
Greene. Hillslope.

✓ No. 11,906. *Encrypta chrysanthemifolia*
Greene. Hillslope.

* from Santa Susana Pass and the valleys below it west, about Simi; cf. p. 123.

✓ No. 11,907. *Chenopodium*
Flats.

✓ No. 11,908. *Nemophila aurita* Lindl.
Covering an old rubbish pile on the "valley" floor with a splendid abundance of bloom. Stems 3 to 4 ft. long.

✓ No. 11,909. *Stachys californica* Bth.
= *S. bellata* Bth. "valley" flat.

✓ No. 11,910. *Salvia spathacea* Greene.
By streamlet on flat.

✓ No. 11,911. *Solanum douglasii* Dunal.

This is very showy. It makes a large bushy type of plant which is now strikingly floriferous. The white corolla has a purplish central star with a yellowish star inside of that. On the flat at El Capitan camp.

✓ No. 11,912. *Convolvulus cyclostegius*
House.

✓ No. 11,913. *Marrubium vulgare* L.

- I leave the camp at El Capitán (p. 132) and drive westerly along the coast. I collect:

- No. 11,914. *Maha parviflora* L.
No. 11,915. *Malacothrix saxatilis* J.

g. A strange-looking cichoriaceous bush with showy white flowers growing on the ^{rather} rocky slope above the highway. It is a quite "wild" place, this, but I do not recognize the plant as a native. The bush is rather low and spreading, quite woody below; showy white flowers. Bush differs from sp. as described.

- No. 11,916. *Orthocarpus*

The 2 pairs of calyx-lobes quite in front. Sacs egg-yellow on upper half. Galea white, slender, very hairy, each corolla sac twin by a longitudinal channel. Bracts and calyx-lobes white-tipped or pink-tipped. *Gariola*.

-Cont. from top of p. 134. It is a wonderful day, the ocean glides on my left hand the islands of Santa Cruz and Santa Rosa lying bulky and dull at no great distance.

-Cont. from p. 141. - The old ruin of Mission La Purissima has a good deal of interest; it is still a romantic spot. Here Hornbweg stopped on his journey south in 1845; here Douglas also must have stopped. The little vale is now cultivated in barley, right up to the edges of the mission walls. It is a quiet peaceful place; the crows flying over croak contentedly, there are the faint sounds of country life in the near-lying ranches.
Cont. p. 145.

* Cont. from p. 131. Apparently my judgment of him an error. His plan for the garden was impossible says C. B. Wolf. Has to be done over. - Oct. 1940.

At Gaviola I turn up Gaviola
Cañon and at Las Cruces village,
a few miles up, I leave the paved
road and take a dirt road
to the west. Four or five miles
up, on the shoulder of a hill,
where the road curves up and
around again, ^{at 900 ft.} I collect on the
moist northerly openly wooded
slope the following:

No. 11,917. *Dichelostemma pulchellum*
Brodiaea capitata

No. 11,918. *Sanicula arguta* Greene.

No. 11,919. *Ranunculus*

I go on to the summit and
down grade a very short distance
I stop and collect at Yridisis
Creek: 800 ft.:

No. 11,920. *Physanocarpus lacini-*
atus Nutt.

No. 11,921. *Graphalium palustre*

On the way, in the hills, I pass the
ranch gate labeled "Rancho de las
Encinas, E. M. Nutting".

I drive on down El Jaro Creek:

(^{102. of Loupoc.})
- *Populus trichocarpa*, 85 to 90 ft. h.,
a stand of very tall trees in the
river bottom.

- *Asteriscia californica*

- *Baccharis pilularis*

- *Salvia mellifera* Jepson

; and on the way pass the various
ranches, all with Spanish names,
belonging to the great Rancho San
Julian, now the Sibb estate. I
soon pass the large home ranch
of San Julian with its interesting
buildings.

I drive on to Loupoc with its
spacious streets, eat dinner, repair
a flat tire, purchase an inner tube,
and start over the new road to
the Purisima Hills. The road runs ^{straight}

✓ northwesterly and passes ^{over} a sort of sandy scrub "barrens" covered with shrubs*. *Ceanothus* no. 11,926, *Adenostoma fasciculatum*, *Rhamnus californica*, *Baccharis pilularis*, *Artemisia californica*, *Sambucus glauca*, *Leptodactylon californicum* (no. 11,948), *Paeonia brownii*, *Rhus diversiloba*, *Salvia columbaria*.

[Cont. from p. 142.]

No. 11,948. *Leptodactylon californicum* H. & A. Three to 5 ft. h!, wonderful shrubs, with large clusters of flowers, ^{now} enlivening the dull tone of the chamisso, spotting it here and there with flashes of brilliant color - a lovely rose-pink.]

No. 11,922. *Oenothera micrantha* Hornem.
Flat on the sandy soil

* I also note a few common herbs.
^{↑ i.e. list,}

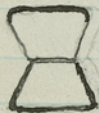
No. 11,923. *Cryptantha clelandii* Greene,
var. *florosa* J. H. Abundant, showy.
No. 11,924. *Calyptridium monandrum* Nutt.
Prostrate.

No. 11,925. *Linaria canadensis*
Dum. var. *texana* Reub. Sandy soil.
No. 11,926. *Ceanothus* ^{*cuneatus* (Hook.)} ~~*rigidus* Nutt.~~
5-6 ft. h.

No. 11,927. *Zygadenus*
This seems like the
San Diego type.

I drive on, on the highway, which runs straight on these rolling ^{hills}, perhaps old-time sand-dunes, and come to a road marked Mission La Purissima. This is a country road, turning back at an angle. The botanizing on it is splendid - the display of Prickly Phlox (no. 11,921, being especially abundant. I go on down to the old Mission La Purissima which is (Cont. p. 141)

- No. 11,928. *Urtica urens* L.
No. 11,929. *Chorizanthe pumila* Benth.
Sandy flat.
No. 11,930. *Layia glandulosa* (Nash) H. & A.
Sandy soil.
No. 11,931. *Brassica nigra* (L.) Koch.
This grows by the cloisters
at the mission and is very rank.
No. 11,932. *Lupinus bicolor* Lindl.
~~var. *tridentata*~~
No. 11,933. *Phacelia distans* Bth.
No. 11,934. *Collinsia bartiseifolia* Bth.
No. 11,934a. *Platystemon californicus* Benth.
No. 11,935. *Orthocarpus purpurascens*
Bth. Note the yellow-tipped sacs.
No. 11,936. *Bowlesia lobata* R. & P.



The mericarps are flat on the back and joined by a narrower face, in cross-section something like the diagram.

- No. 11,937. *Sagina apetala* And. var. *habata* Fendl.
No. 11,938. *Oenothera contorta* Dougl.
No. 11,939. *Stellaria* ~~*Cerastium viscosum* L.~~
= *C. capitatum* (Dougl.) Greenm.
No. 11,940. *Erysimum asperum* B.
It covers the hillsides,
growing on "spurs" of the brushy
hills, with an orange-red flower.
It is 1 to 3 ft. h. I have never
before seen so much of it!
No. 11,941. *Pterostegia drymarioides* F. & M.
No. 11,942. *Alchemilla* ~~*occidentalis*~~ *arvensis* Nutt.
Scop.
No. 11,943. *Filago californica* Nutt.

cont. from p. 139.

a ruin, no roofs left, but some of the walls left, with some of the columns of the arcades. I collect old-time weeds (nos. 11,931, 11,928), the *Brassica nigra* having larger leaves than I have ever before seen it bear. The mission lies in a little narrow vale, opening southerly onto the level of the valley floor of the Santa Inez River valley.

Cont. p. 135.

- No. 11,944. *Amsinckia spectabilis* F. & M.
var. *microcarpa* (Greene) ^{C. 600 ft.} ~~greenei~~ ^{greenei} ~~Hornem.~~
- No. 11,945. *Portentillo* Lindley, Greene
~~var. puberula~~ ^{*Horkelia cuneata* ssp. *puberula* (Greene) ^{sp. nov.}}
Open flat in the chaparral. Cor. white. ^{sandy} leaves in an erect tuft, the clumps of foliage suggesting a fern. ^{Basal}

- No. 11,946. *Solanum xanti* Gray.
Corollas only very shallowly lobed! Cf. no. 11,911 at Canada del Capitan. The corolla centers in 11,946 are marked by pairs of greenish spots.
- No. 11,947. *Eriophyllum multicaule* Gray.

- No. 11,947a. *Cercocarpus betuloides* Nutt.
- No. 11,948. *Leptodactylon californicum* H. & A. Extremely showy; glorifying this little open canon in the Purissima Hills. See p. 138.
- No. 11,949. *Cirsium*

- No. 11,950. *Amsinckia* ^{*Menziesii*} ~~*helleri*~~ Broun.

- No. 11,951. *Scrophularia californica*
new var! Corolla dark purple, very jug-shaped; upper lip inflexed a little; scale linear, dark purple, small. Stamens coiled in a very peculiar way, the anther lying in



The center of the coil, that is the curve of the coil. Plants 4 ft. h. Lower pair do not uncoil and straighten until corolla is about ready to fall. The corolla is so promptly deciduous, that it is more than deciduous, but not caducous. Summit.

No. 11, 952 ^(Discarded, insect damaged)
Reficaria

c. 1000 ft.

No. 11, 953. *Quaphalium bensolens*
3 to 4 ft. tall.

No. 11, 954. *Cryptantha clelandii*
Greene. The "buds" white with δ ! = Var.
hispidissima Th.

No. 11, 955. *Pinus muricata* D. Don
Trees mostly 25 to 45 ft.
h.; about 220 acres on this
drainage. Total acreage about
1200 as a guess. I cannot see
it all from the summit.
Fire has swept through the
main acreage as seen from
here, the summit, and destroyed
say 200 acres.

No. 11, 956. *Eriodictyon traskiae* Eastw.

No. 11, 957. *Malacothrix floccifera*

No. 11, 958. *Astragalus douglasii*
Gray. Flowers in dense racemes;

corollas very white. Gratt. 350 ft.
= *A. pomonensis* Jones.

Cont. from bottom of p. 135. - It is
evening by the time I look about
the Mission precincts. A fine old
Schinus molle tree stands on the
southerly side, *Sambucus glauca*
trees grow on the crumbled walls
on the other side. I drive up the
road $\frac{2}{1}$ ^{miles} whence I came down, and
camp over night. In the morning
I go back to the Mission, to
wander again about its precincts
and photograph its ruins; take
the road ^{northerly} once more and botanize
with great delight in the hills
before again striking the highway.
(nos. 11, 930 - 11, 949). I go on to the
summit of the Purissima Hills,
where I have a fine view of the stand
of *Pinus muricata* (no. 11, 955) and
collect nos. 11, 950 to 11, 958. (Cont. p. 146)

1570 ft. Apr. 26, '27

- No. 11, 959. *Poa scabrella* (Thurb.) ^{San Luis Obispo Co.} ~~Gray~~ ex Vasey
 No. 11, 960. *Trifolium* ^{var. *umbellatum* J. & G.} ~~ambellatum~~
 No. 11, 961. *Trifolium tridentatum* Lindl.
 No. 11, 962. *Festuca reflexa* Buckl.

No. 11, 963. *Viola pedunculata* J. & G.No. 11, 964. *Vicia americana* Muhl.No. 11, 965. *Sanicula arguta* GreeneNo. 11, 965a. *Beauveria sorediata*
 K. & A. Santa Margarita.

Cont from p. 145. I drive northward; collect a bit near Orcutt; ^{see p. 149.} go on to Santa Maria; thence to Pismo Beach where I camp over night. The next morning I drive up into the Cuesta Pass ^{see p. 149.} and collect nos. 11, 959 to 11, 965. Down hill. In the moist beds of former spring pools I collect nos. 11, 966 to 11, 969, near Santa Margarita.

April 26, 1927

Santa Margarita, 1100 ft.
 San Luis Obispo Co.No. 11, 966. *Trifolium albopurpureum* J. & G.No. 11, 967. *Trifolium* ^(var. *melananthum* Greene) *variegatum* Nutt.No. 11, 967a. *Trifolium* ^{*grayi* Loza Greene} ~~variegatum~~No. 11, 968. *Floerkea douglasii* Baill.No. 11, 969. *Poa annua* L.No. 11, 970. *Tropidocarpum gracile* Hook.
 Canary yellow petals.No. 11, 971. *Matricaria* *matricarioides* (Less.) PorterNo. 11, 972. *Orthocarpus attenuatus* Gray.No. 11, 973. *Orthocarpus densiflorus* Bth.No. 11, 974. *Lupinus nanus* Dougl.
 var. *apricus* C. P. Sm. All the very remarkable lakes of Lupine color in this region appear to be of this species. See p. 147.

148
a. 1250 ft.Santa Margarita, 4 to 5 mi. easterly,
on road to Pozo.

26 Apr. 1927

No. 11,975. *Trifolium* (Missing. May '27).No. 11,976. *Agave heterophylla*No. 11,977. *Physanocarpus curvipes*
Hook. var. *elegans* Rob.No. 11,978. *Delphinium variegatum* Tiff.No. 11,979. *Layia platyglossa* (F. & M.) Gray
ssp. *campestris* KeckNo. 11,980. *Platystemon californicus* Benth
Cont. p. 149. Coloring the valleys in
low spots.

No. 11,981. missing. May, '27.

I drive easterly from Santa Margarita, in a narrow valley, with a stream* in it, - the road to Pozo. Here I collect no. 11,970 to 11,981.

The country is dazzling with the spring flowering; it is the very height of the season*. The country

* Probably

* Cont. p. 175.

Santa Margarita, 26 Apr. '27.

149

is still very green, the oaks and other trees swell into soft billows of fresh green, the sun shines from a cloudless sky, the warm air is only occasionally stirred by ^{the} pulsing breath of the vernal day. Cont. p. 168.

Cuesta Pass. cont. from p. 146. The oaks suddenly make a great show northerly from Cuesta Pass. Just now they are lovely to look at - their fresh green foliage, their soft swelling crowns.

Cont. no. 11,974. The Lupine show is almost dazzling about San Luis Obispo and about Santa Margarita. There is a great deal of what appears to be one species - i.e., the showy effects are made, apparently, by a species, of which this no. 11,974 is representative.

Orcutt, cont. from p. 146. The lupine - bedecked hills about Orcutt, ^{Santa Barbara Co.,} are fascinating. Very showy too, are the slopes of *Salvia can- duacea*.

Cont. no. 11,980. The petals have yellow tips.

- I continue to drive eastward along the valley referred to on p. 148. The valley becomes more rolling, its surface still oak-dotted; then it finally becomes quite flat, more nearly the typical Coast Range valley with level floor. It is ^{now} narrow; has in it a living stream. At the road forks marked right, ("Mountain Road") I take "left" road, leave the valley floor and pass over a little divide and enter a charmingly picturesque region of castellated wooded hills and the same rolling valleys with oaks and flowers and ^{green} grassy glades. Here at my right is a little rounded hill, so smoothly curving its top a little wooded with oaks, the open slope northward spum fine with *Baeria*, a lovely beaten gold of even texture under the sun shining from a

26 Apr. 1927

cloudless sky. How I love these rounded knolls with a few oaks and all gold with *Baeria*!

I go down hill rapidly through these sweet golden hills and soon come to a river bottom and cross the Salinas River by a bridge. *Populus trichocarpa* is here.

- No. 11, 982. *Erechtacholzia caespitosa* Benth. Salinas River Bridge.
No. 11, 983. *Leptodactylon californicum* H. & A. Salinas River Bridge.

The two numbers above were collected near the bridge over the Salinas River about 12 miles below Pozo. The seeds of no. 11, 982 are irregularly or perhaps better imperfectly lineate-reticulate, i. e. roughly and irregularly lineate-reticulate.

I continue along the Salinas River until I come to more open country. The right hand side of the road is not fenced and there are little oak-covered vales where one could camp, as open as it all was in the old days. After a mile or less I reach the point where the "Mountain Road", mentioned on p. 150, rejoins us. Some miles back there was marked an "alternative" road to McKittrick. See footnote.

A mile beyond where the "mountain road" comes in, on a little hill, I have a fine view of the Pozo Range lying directly across the path ahead. The hills are all golden with *Baeria* (no. 11, 984) and I drive down into the village of Pozo - little valleys lying about and more golden hills. [cf. p. 177]

✓ No. 11, 983a. *Pentstemon Rigopappus* Valley flat

✓ No. 11, 984. *Baeria* Valley flat

✓ No. 11, 985. *Microseris elegans* Valley flat

✓ No. 11, 986. *Plagiobothrys canescens* Bth. Valley flat

* At a sign post, 15 miles from Santa Margarita, also at a sign post 13½ miles from Santa Margarita, a sign post points to a left-hand fork. It is little-used old road to McKittrick.

Soon begin to climb the long tortuous grade to the summit of the Pozo Range. The cañon walls are gorges in spots with *Leptodactylon californicum* (no. 11, 893), (this number collected at the Salinas River bridge).

Pozo Range, s. San Luis Obispo Co.

✓ No. 11, 987. *Clematis lasiantha* Nutt. Near summit

✓ No. 11, 988. *Eriodictyon tomentosum* Bth. This is common

through the lower cañons and in some places near to the summit

✓ No. 11, 989. *Dodecatheon Hendersonii* Gray. Second summit

✓ No. 11, 990. *Viola quercetorum* B. & C. ~~*purpurea* Wall.~~

Second summit.
No. 11, 991 - 11, 999 not used.

- The mountain slopes bear colonies of *Sedum rigida*. They are more floriferous than I have ever seen.

While the flowers are not as large as at La Jolla (cf. no. 11,895) they cover the bushes more completely. I note a large number of colonies of *Eriodictyon* of no. 11,988. It seems likely, too, that the stand of *Dendromecon rigida* is greater here than I have ever noted it elsewhere in Calif. At the summit I turn and look back at the long dark range of the Santa Lucias.

No. 11,000. *Solanum umbelliferum* Esch. var. *incanum* Donal. - cont. below -

Green glands in center cor. Near Panza. See p. 163

No. 12,001. *Microseris linearifolia* Near Panza.

No. 12,002. *Stenotopsis linearifolia* (DC.) Rydb. Caliente Hills

No. 12,003. Not used.

[Cont. from above] the stream at the base of which I have been following up all morning. The balmy softness of the air, the gentle slopes of the hills, properly ornamented as beauty may will be, in gold, the mountains behind

(the hills) in majesty of purple as is becoming majesty - all this is in contrast to the dire sterility of the desert from which I have just come and so I pause a moment to depict this picture of the general landscape. To come back to the spot which has been reached - the summit of the Pozo Range, this is National Forest but not a tree do I see except *Pinus sabiniana* down below. It is a fearfully fire-harried region - the chaparral shows that I go on down till, then up again a bit to a second summit (2495 ft.). Cont. p. 169.

No. 12,004. *Microseris heterocarpa*

No. 12,005. *Dodecatheon clelandii* Greene.

No. 12,006. *Microseris heterocarpa* ~~12006a~~ " *douglasii* Gray.

No. 12,007. *Pseudotsuga carni- folium* C. + R.

The above, nos. 11,904-11,907 were collected at the road junction from Cholam, Simmes, Pozo

Cont. from bottom of p. 170.

- I travel north over the plain, from the road junction noted on p. 170 and finally get through the wheat fields and enter a rolling plain that has never been plowed, I think, and bears a fairly primitive vegetation except for the brims and similar ^{alien} grasses which have come in. It is a bit "hog-wallow" country. I collect:

Cont. p. 169.

- ✓ No. 12,008. *Microseris longifolia*
- ✓ No. 12,009. *Microseris heterocarpa*
- ✓ No. 12,010.
- ✓ No. 12,011. *Phacelia ciliata* Bth.
Mainly in the wheat fields. It is a native which has adapted itself to cultural conditions of civilization and will persist. Specimen represents about 1/5 of the plant.

SPM discarded

- ✓ No. 12,012. *Microseris linearifolia* (DC.) Sch. Bip. ^{alt. K. Chambliss (1956)}
- ✓ No. 12,013. *Gilia gracilis* Hook.
: *Microseris*

- ✓ No. 12,014. *Lupinus microcarpus* Sims.
+ *subvexus* C.P. Sm. var. *albicanatus* C.P. Sm.

- ✓ No. 12,015. *Microseris linearifolia*
Corolla lavender-pink. Plants always scattered, never in colonies. Extends to Chloame.

- ✓ No. 12,016. *Androsace acuta* Greene.

- ✓ No. 12,017. *Orthocarpus purpureus* Bth.

- ✓ No. 12,018. *Poa scabrella* (Thurb.) Benth. ex Vasey
(det. Beecher Crampton, No. 13, 1975)

This grass is very common on the plain.

- As I drive north the plain becomes more rolling and finally low-hilly. ^(cf. p. 176) A low ridge which parallels the wagon track has a dominant feature on its northerly slope in a bush lupine ^(No. 12,019) 2 1/2 x 3 ft. h. The bushes are scattered or spaced but this species

158

N. end Carrizo Plain, c. 2300 ft.

represents the only woody thing on these bare hills. There is a lot of it and it continues at intervals all the way to Cholame. Cont. below.

No. 12,019. *Lupinus albifrons* Bth.

**

See p. 157.

No. 12,020. *Linanthus dichotomus* Bth. This formed a colony on the shoulders of the little hills, referred to at bottom of

p. 157. Occupies several acres.

^{cont. from above.} On and on I go, now amongst lonely ranches, so drab and deserted and drear, half of them abandoned and presenting the most hopeless picture of lost effort, the hills becoming less smooth, the road trail following open cañons and slopes more and more difficult, until finally I emerge on the county road near the Choice Valley School. Cont. below.

**As the road rises a little I come to ^{Lupinus} this; scattered but continuous, ^{winding amongst the low hills,} in fine fettle, makes a splendid show for miles.

^{cont.} Since it is getting late and it has been slow going through the hills lying at the foot of the Tumbler Range I have been hurrying a bit; but, now,

Palo Prieto Pass, Apr. 26, '27.

159

W. Kern Co., 2000 ft. (Tumbler Range).

reaching a county road (see * p. 158) I take it more easily through Palo Prieto Pass and but seize a bit. I note an *Astragalus* (no. 12,223) almost flat on the ground, its many stems radiately decumbent from a root-crown. *Salvia* *carduacea* paints the hills in blue.

And there is a large colony of a most beautiful and interesting *Chaenactis* (no. 12,222). In this dry and treeless country it is odd to see a body of water, Grant Lake. The Tumbler Range having all this time been in my sight - a not at all imposing range. Cont. p. 160.

No. 12,021. *Salvia carduacea* Bth.

Making the hill slopes blue for acres and acres.

No. 12,022. *Chaenactis glabrinocula* Dc.

This forms handsome colonies on the slopes of the low hills, the egg-yellow flowers much enlarged. Flowering the outer corollas of the buds

No. 12,023. *Astragalus douglasii* Gray. Stems decumbent, radiating from a central root crown. Flowers a dull yellowish-white. See note above.

[Cont. from middle p. (59)] And so on to Cholame, where I camp at sundown. Cholame, a mean little hamlet - ranch, store, decayed dance hall, school - is set in a broad winding hollow of the hills which seem to open to the west into the Salinas Valley, and as if to the east into the San Joaquin Valley through low passes in the hills. The hills round about now turning a rich brown, treeless, or on a few nr. slopes with a thin scattered oak stand. Occasionally, all the way from the Carrizo to Cholame I noted a few individuals of *Monolepis major*.

The next morning eastward and in a mile I leave the highway, enter a gate and find myself on a ranch road in the Cholame Ranch.

- No. 12,024. *Matricaria discoides*
occidentalis Greene
No. 12,025. *Microseris douglasii*
ssp.
No. 12,026. *Striplus*

No. 12,027. *Monolepis*

- (Discard, insect damaged)
No. 12,028. *Hernizonia*

The valley level on the Cholame Ranch has a wonderful pure stand of this, several hundred acres and very golden. No poppus!

- No. 12,029. *Layia platyglossa* (F. & M.) Gray
ssp. *composita* Keck
No. 12,030. *Lepidium acutidens*
Howell.
No. 12,031. *Lasthenia glabrata*
12,031a " minor

No. 12,032. *Allocharya stipitata* Greene.
var. *microantha* ^{McGr.} In a former mud pool,
of characteristic habitat for this
form, spreading or prostrate.
Cholame Ranch, Cholame Valley.

The Cholame Ranch is very
wonderful in its spring garb of
flowers; the valley level, the hills on the
east side barren; the west side
hills thinly wooded with oak^x; great
colonies of *Fidy Lips* (no. 12,229),
of *Lartheria* (no. 12,231), of *Platy-*
stemon; leagues of *Orthocarpus*
purpurascens. This morning early,
at 5⁰⁰, a blanket of fog covered
Cholame; by sunrise it was gone,
leaving the air bright and clear,
the hills showing like diamond
points.

I drive on through this val-
ley, opening 6 or 7 ranch gates
* *Quercus douglasii*

as I pass the various ranches. The Cho-
lame Ranch, where I pass through the
baryard, seems the most important.
At lower^{est} end of valley along Cholame
Creek there is *Populus fremontii* and
Quercus lobata. In the valley proper
there are no trees save a string of
willows in flats near the Cholame
Ranch house. I join the country road
at Melville School. The sign on the gate
post where I pass out is R. E. Jacks.

No. 12,033. *Lonicera subspicata* H.
+ A. A large shrub, like a large
Ceanothus cuneatus bunch, many-
stemmed, 8 ft. h. Main stems
to 2 inches thick. This is a
quite astonishing individual. Just
note that this plant was treated in Bot. Cal.
as a variety of *L. hispidula*!!
No. 12,034. *Sisyrinchium*
It bedded a little swale in the oak ^{woods}

- Cont. no. 12000. Corolla pale blue,
very deeply cleft.

Parkfield, Apr. 27, 1927

The valley about Parkfield is a true *Quercus lobata* type of valley. The *Quercus lobata* trees are, rather large, mostly slender-trunked, ^{abundant,} apparently the original stand has been cut very little. I am surprised to see this type of valley so far south and so far in (i.e., away from the coast) on account of increasing dryness. At any rate is a real *Quercus lobata* flood plain level, El Carpintero and all!

Parkfield is a tiny village set in the Valley Oaks, quiet, Incolic - might be in a back vale of Napa Valley. There is a store, a church, a "hotel", and a few cottages.

I made a noon camp in a little oak glade by the roadside, under oaks in a grassy spot; the warm dry air; the bright sunshine; the bacon sizzling fragrantly and the eggs spluttering over the fire, with savory corn in the pan; and El Carpintero cheerfully punctuating the noon
[Cont. p. 165.]

Stone Canyon, Apr. 27, 1927 165

- No. 12,035. *Ceanothus* ^{*leucodermis* Greene} *divaricatus* Nutt.
No. 12,036. *L. androsaceus*
No. 12,037. *Linanthus breviflorus* Greene.

[Cont. from bottom of p. 164.]

silence. *Eriodictyon* (same as no. 11,988) occurs here. Also the same *Astragalus* as in Palo Prieto Pass (no. 12,223).

Orthocarpus purpurascens ^{still} making a great show in all the Parkfield valley. As the valley narrows the wild flower show intensifies amongst the hills so variegated. There is a hill with *Baccharis* ^(colorfully) and *Orthocarpus* intermixed. There is another hill I'd like to remember just for its beauty as one would like to remember a great painting by Leonardo - a hill all green and rounded, its summit backed with *Pinus sabiniana* and a little chaparral scrub, in front of this down slope an area of *Orthocarpus* so dense and even, so lovely against the green grassy slope below. The way is adorned with beautiful *Quercus agrifolia*, full round-headed figures, the crowns not eaten off below.

I pass over a divide and am confronted by a range of bold high hills or

- monterey Co. 3000 ft.
 No. 12,037. *Viola pedunculata* F. & S. ssp.
tenuifolia B. & C. ined. Valley level.
 No. 12,038. *Micropus californicus* F. & M.
 No. 12,038a. *Pentachaeta*
 (A gnaphaloid plant)
 No. 12,039. *Sanicula bipinnatifida* Dougl.

-Cont. from bottom of p. 166.]
 mountains. I drive down the steepest hill
 ever negotiated and land at the bot-
 tom in a considerable stream bed with
 a little running water in it now. This is
 Stone Cañon. *Populus Fremonti* here. A
 "road" sign says San Miguel 24 miles.
 There is a good deal of *Eriodictyon* no. 11,988
 here. *Pinus sabiniana*. I climb
 northerly up out of Stone Cañon by a very
 steep wagon trail (often in low gear),
 the steepest and longest as to steepness
 I ever undertook and come out on top
 of a high open grassy ridge - some
Pinus sabiniana and some *Quercus*
douglasii. A magnificent view
 west: I see the Santa Inez range
 away south, the Santa Lucias away
 west. Three peaks lie above head of
 Stone Cañon (Andrews Peak, Frames
 Peak and one other), the [Cont. p. 171]

- No. 12,040. *Morolopia major*
 Hill slope.
 No. 12,041. *Lupinus densiflorus*
 (Discarded, insect damaged) Steep dirt bank.
 No. 12,042. *Layia*

(San Benito Co.).
 Bitterwater Valley, 27 Apr. '27

- No. 12,043. *Lupinus albifrons* Bth.
 2 1/2 ft. R.
Mardebium vulgare, common.
 No. 12,044. *Oenothera decorticans*
 H. & A.

Cook, San Benito Co., 27 Apr.
 Pinnacles P.O. See p. 173.

- No. 12,045. *Lupinus albifrons* Bth.
 Woody bush, 3 to 6 ft.
 h., dominant on the open
 gentle slopes. This was col-
 lected near Pinnacles P.O.
Pinus ponderosa was noted
 2 miles back. This P.O., is
 near the old station called Cook;
 the two may be the same. [The same!]

- Cont. from middle p. 156. As one looks southerly over the Carrizo plain it seems almost illimitable, but on the horizon, far out, as if at the head of the San Joaquin is a great bulk of a mountain, ^{on a} much larger scale than anything in this region, perhaps San Emigdio Mountain - in all likelihood that. Cont. p. 179.

- Cont. from p. 149. There is an occasional crow and I stop to watch a few magpies in the green flowery fields, almost a circle of white about the middle of their black bodies - "the flash of light when he flies is remarkable," I find noted ^{by me} in my vest pocket memorandum. Then there is the cheerful contented call of El Carpintero amongst the oaks - "things are all right; everything going fine".

- Cont. from p. 155. - and thence down hill a little to a Forest Ranger sta.; a mile above this I thought I saw *Arctostaphylos manzanita**. *Pentstemon centranthifolius* is here. *Eriodictyon* (no. 11, 988) is common here and there; it is abundant on little sloping flats below the Ranger sta. I drive on down through the hills and to my surprise come into a small but distinctive Valley-Oak-type of Coast Range valley, the trees standing rather thickly in it - a swamp or old lake bed? A good looking ranch here. The oaks continue below this. I next come to another ranch, part of one of the ranch buildings being stone (perhaps this is, this must be, I suppose, La Panza). A mile or two below I cross a great wash, San Juan Creek (which empties into Estrella River), by a bridge, and then up grade over a range of

* Could not have been.

low hills, Caliente Hills (Caliente ^{Range} the more pompous name of the U. S. S. topographic map). There lies an open stand of *Juniperus californica*, 10 to 14 ft. h., broad and bushy. *Stenotus linearifolius*, common here. At the summit of the Caliente Hills I look out on the utterly flat and barren Carrizo Plain, surrounded by as barren mountains, the plain filled with a wheat field.

I go on down into the fields of wheat on the plain. The road runs southeasterly and soon a road comes in from the north. The sign says Cholame for this road; and ^{so} I turn sharply north. At this road junction I collect nos. 12,204 to 12,209. The road narrative continues at top of p. 156.

[cont. from bottom of p. 166.] higher rugged pinnacles north of them = The Pinnacles (of the topographic map). ^{the} surveying this mountain world east and west from the ridge, I go down, down, down a steep steep hill quickly to a narrow valley below where there is the most old-fashioned wagon track, running along merrily without a fence on either hand, the grassy glades opening off it between the oaks (Coast Live and Blue) all flower-bedecked. Like old days in California, where the roads ran as in an open park without any sign of a fence. This is a delightfully retired valley - I do not notice a single house in it. On the topographic map, of U. S. Geol. Sur., it has no name; it is the valley of Slack Creek. This valley narrows to a narrow cañon with a thin and dangerous wagon

trail on its side. As it opens out a little below I am struck by the stream under-cutting of the lateral ridges that come down into it - to the bottom of the cañon and the very high walls of the barranca* ^{fin} further on. The stream in this narrow valley and narrow cañon has only a little water in it. I find it several times ^{running} thus far. [Slack Cañon]

From the great barranca which opens out westerly through a deep cañon I go on north westerly, in the same general direction that I have been going between the ranges and the cañon soon open out into a ^{(San Lorenzo Valley)*} narrow valley with some *Quercus lobata* in it and some good ranches. I pass over a little cross ridge and drop to a lower level with a broader valley (Peach Tree Valley)* ^{see p. 174.} and very level floor with a lot of *Quercus lobata*. Next I strike a fork of the

*** Slack Cañon

** of Monterey County Map.

Note to * p. 173. = Little Rabbit Valley, after which Dry Lake Valley (see ~~the~~ Quadrangle). The great barranca described on p. 172. is the upper part of Poncho Rico Creek where it enters "San Lorenzo Valley" of my notes (not indicated on Prior Valley Quadrangle. Historically the great barranca is Slack Cañon.

road where the Fresno-Coalinga road comes in from the east. At Lonvak ^{hamlet} a road goes west to King City. East of the Peach Tree Valley behind the first range is a high distinct mountain mass, Mt. Hepstead. At Lonvak the brown hills glow with a more marvellous and unusual and interesting brown than I have ever seen - part ~~seasonal~~ part the time of day and the sun-light - but mostly ^{next Bitterwater Val.} intrinsic.

On the grade up ^{and out of} from Bitterwater Valley, 200 yards above the floor, I note: *Salvia carduacea*; *Salvia columbaria*, on the floor of Bitterwater ^{Valley}, occurs *Eriodictyon* (same as no. 11,988).

I climb over a divide (northerly ^{Valley (San Benito Co.)} from Bitterwater, and into a valley; then next a fork easterly to San Benito town. I go northwesterly over a divide where there is a most remarkable view of the Vancouver Pinnacles. I pass Pinnacles P.O. (formerly Cook P.O.)

There is a great round mountain, very prominent lying south of the Pinnacles, another nearer and more pointed. I come ^{now} on north through the hills and the Clark to Hollister. The next day home to Berkeley.

Cont. from * on p. 172.

The nice little foothill part of range that borders Peach Tree Valley on the west is about the same height as the Arquipa Hills in nev. Solano Co, but steeper, though wooded in much the same way. The slope shows old river benches half-way up. The Peach Tree Ranch is a considerable ranch which I note shortly after the Fresno-Coalinga road comes in.

Cont. from p. 148.] There is here in this valley a gentle slope, openly wooded, with most wonderful bushes of *Ceanothus sorediatus*, spaced like oaks - round-headed - balls of flowers resting on the ground, 9 to 11 ft. h. *Pinus robiniana* scattered here.

A mile away is the gentle slope of a hill dotted openly with oaks, the spaces filled with the dark reddish pink of *Orthocarpus* (no. 11, 972); the oak vale below, its level blue with *Lupinus* (no. 11, 974), its foreground with *Orthocarpus* ^{no. 11, 972}, again, - a wonderful sight, a most remarkable picture. [This page really a continuation of p. 168 at bottom. These notes written in the valley, perhaps not more than four or five miles easterly from Santa Margarita.]

-Cont. from bottom p. 81]

Chorizanthe rigida, *Atriplex hymen-*
elytra, *Sphaeralcea rotundifolia*;
Fouquieria splendens; *Dalea spinosa*
 (rare); *Rafinesquia neomexicana*;
Calandrinia ambigua; *Gracida*
 bushes 3 ft. h., 5 to 6 ft. broad,
 with dimorphic foliage: young
 foliage caulescent, thinmish;
 old leaves fleshy, yellow-green.
 This is neither in flower nor fruit
 and no specimens taken, but
 worth noting in the matter
 of differentiating *S. torreyana**
 and *S. suffrutescens*
Prosopis juliflora, rare.

-Cont. from last paragraph p.
 157. These hills are really
 foothills of the ^{Now} Tumbler Range.

* = monquini

cf. p. 152

[Copy of a letter*: On my way I saw at its
 best the flowering in the Caliente foothills
 below Tebanchapi. For broad swaths of color
 I have never before seen anything like it -
 even in California. On my way back from
 the Colorado Desert I went into the inner
 Coast Ranges lying next the San Joaquin
 Valley at the other end. That region is
 normally semi-arid. It is remote and little
 disturbed or contaminated by civilization.
 Here I saw pictures of flowering that I
 wanted to call perfect works of art - but
 that is an insult to Nature. In reality it
 was Nature in her most surpassing efforts,
 doing easily after all what the artist imitates
 strive for ~~her~~ in some small degree: the
 soft flowing contour of a hill, crowned with
 scattered blue oak and a bit of chaparral,
 the green slope below colored evenly and
 finely with one intoxicating tint - and the
 balmy air and glowing sunshine over all.
 Each hour and each day as I journeyed
 I said of some as of nature striking com-
 positions: Owl's Claw can never equal that as
 a picture again. But it would - in some
 new canon or rounded shoulder of the
 hills. Barro, making a pattern of brain
 gold, furnished something I felt I never
 remember - for I would never see the
 like of that particular picture again.
 But I did - not just the same, ever -
 but equally dazzling or exquisitely
 beautiful. - W. L. Jepson

[* to a friend]

Berkeley, May 11, 1927.

No. 12,046. *Coronopus didymus* Sm.

This came up freely on the site of the Women's Temporary Gym. shack when the shack was torn down this spring.

No. 12,047. *Spergularia*

with preceding.

— Professor W. W. Robbins of the School Farm at Davis is here today. He says: "Our Textbook* of Botany has had great success. It is being adopted very widely and in addition is Wiley's third best seller. I think the reason for this is that the book has substance. Most all of the text books of botany are weak, watery, forceless. Our book has backbone. The other books have none. We think botany should be made hard, because students will respect the

* See p. 179

Berkeley, May 11, 1927

subject if it is made different. If they have to work on a thing they will like it."

He apologized a bit for the book being no. 3 in the selling list by saying: "No. 1 is a Chemistry text and you know there are so many more students in chemistry than in Botany we should expect that." — May 15, 1926.

— Cont. from middle p. 168. The plain harbors more "cliffy birds", the horned larks, than I have seen in a long time. It is a characteristic habitat. Cont. p. 157.

* Cont from p. 178. That is, Holman and Robbins, Textbook of Botany, a rather recent text for college botany.

— Hilgard, E. W. — Always took an interest in the native plants, far more than most agricultural directors. He is mentioned on p. 98, vol. 2, of Bot. Cal.

May 21, 1927

- No. 12,048. *Domasonium californicum*
 Torr. In bed of vernal pool; a deep
 hole. Saw it again towards
 Binghamton in a slough where
 there was water 1 to 3 ft. deep.
 The white petals are very thin,
 very difficult to preserve by
 pressing. The petals are
 footed finely nearly all
 around — unequally, irregularly
 footed.

- No. 12,049. *Dracopis*
Cor. pale blue, the lip
 with a white center and 2
 greenish spots upon it; lobes
 of upper lip coiled. Bingham-
 ton.

- No. 12,050. *Eleocharis macrostachya*
 Binghamton. Mar-
 gin of slough.

May 21, 1927.

A little east ($\frac{1}{8}$ mile) of the Dixon-
 Rio Vista road, is Binghamton, an
 old hamlet. Only three or four houses
 of it left; and the brick 2-story
 hall in which a loyal company
 drilled at the time of the Civil
 War.

On an east and west road, we
 pass over two sloughs (and two
 bridges) ^{-near together-} not long before reaching
 the Dixon-Rio Vista road, ^{noted above} in
 which there is an abundance
 of *Domasonium californicum*.
 In fact this species is common
 in this district, growing in
 every water hole which is
 deep enough. In the larger of
 the two sloughs just mentioned,
 in the deep water, grows *Marsilia*
quadrifolia.

May 25, 1927

Left Berkeley about 8:30. Reached Pismo Beach 5:15. All the way down I noticed the great spread in recent years of *Conium maculatum*. It favors creek banks, stream benches, moist bottoms. I noticed it particularly about San Luis Obispo, San Luis Creek, Pismo. It is often 8 ft. h.

No. 12,051. *Lavatera assurgentiflora*, Pismo, in gully by sea. Probably introduced.

No. 12,052. *Chorizanthe palmeri* Wats.
On steep sandy bank west of Los Alamos 4 or 5 miles.
Cont. vol. 45, p. 63.

Arrived at Santa Barbara at 1⁰⁰ o'clock. Took passage on the power boat, Capt. Eaton of the Sea Wolf, with the Thacher School Party. Aaron Blake also joined us. We were put up in little cottages at Pelican Bay.

Santa Barbara Co. May 27, 1927.

No. 12,053. *Convolvulus macrostegius* Greene. Trailing over shrubs and trees and making a fine show with its very large flowers. The corollas are white. I saw a lot of this on both sides the northerly range and the corollas were always white. They fade pinkish in the press but I saw no pink ones on the vines. Where the sheep range, it formed flowering beds behind the circular rampart of *Opuntia*. Pelican Bay. See p. 200.

No. 12,054. *Urtica holosericea* Nutt.
Prisoners Harbor.

No. 12,055. *Diplazium longiflorum* Nutt.
Two nearly sulphur spots on lower lip. Calyx tube expanded into a throat!!

No. 12,056. *Prunus integrifolia* *Legei* (Eastw.) Sarg. [Continued in vol. 45, p. 132. - this no. 12,056]

- No. 12,057. *Madia flipes* ~~exigua~~
(Sm.) Gray
- No. 12,058. *Lupinus bicolor* Lindl.
var. *umbellatus* C. P. Sm.
In wash.
- No. 12,059. *Bercocarpus abrifolius*
betuloides Nutt. var. *Blanchetiae* (C. R. Schneid.) Little & Rydb.
- No. 12,060. *Stachys bullata* Bth.
- No. 12,061. *Prunus integrifolia*
Legarii (Castro) Sarg.
- No. 12,062. *Trifolium microcephalum*
Pursh.
- No. 12,063. *Lotus subpinnatus* Leg.
- No. 12,064. *Populus trichocarpa*
T. & G.
- No. 12,065. *Trifolium ciliatum* Benth.
Nutt.
- No. 12,066. *Pectocarya linearis*
DC. var. *ferocula* Jtn.
- No. 12,067. *Juncus bufonius* L.

*Nos. 12,054 to 12,072, collected in the
cañon behind Prisoner's Harbor, to ranch house.

May 27, 1927

- No. 12,068. *Medicago apiculata* Willd.
= *M. lupida* var. *confinis*
Small yellow fl.
- No. 12,069. *Navarretia atrorhizoides*
H. & A. Wash. cf. no. 12,076.
- No. 12,070. *Malacothrix incana*
Stems hanging on the cliffs,
walls, or upcurving, 2 to 3 ft. long.
↑ rocky
Several individuals, on sides of a
little cañon coming into the main cañon of
Prisoner's Harbor, which runs from Prisoner's
Harbor up to the ranch house of
the Cairns. We saw afterwards, only
3 other stations, with one individual
at each station. The plant makes
a striking white-silvery spot, so that one can-
not miss it in the landscape.
- I note here in this cañon of Prisoner's
Harbor the following: *Urtica urens*,
Chenopodium californicum, *Eremocarpus setigerus*, *Medicago sativa*,
Hordeum murinum, *Silybum marianum*, *Danens pusillus*, *Rhus diversiloba*, *Centaurea melitensis*.

✓ 12071. *Cotula australis*
↑ No.

✓ 12072.
↑ No.

This gnaphaloid grew in
the moist wash.

✓ 12,073.
↑ No

Rocky slopes.

✓ No. 12,074. *Stylocline gnaphalioides* Nutt.

This gnaphaloid grew
on a bare rocky ridge northerly
from the Cairn ranch house.

✓ No. 12,075. *Chorizanthe*
staticoides Benth. Petals ovate, spreading,
much (half) smaller than the ovate
spreading sepals. Perianth white
with a flush of pink, the flush
deeper on the petals. Segments of
perianth all entire. Rocky open
ridge. With 12,074.

✓ No. 12,076. *Navarretia atractyloides*
H. & A. Cor. blue. with 12075.

✓ No. 12,077. *Dendromecon* ^{Harfordii}
~~arguta~~ ^{Kell.}
Ranuncul. 12 to 14 ft. h., trunks 2 to 4

May 27, 1927.

in. diam. Remarkably *Arbutus*-like
leaf. Appearance very different from the
mainland form.

✓ No. 12,078. *Ceanothus* ^{insularis Eastw.}
~~macrocarpus~~

Nutt.

One individual was 10 ft. h.
with a trunk circ. of 2 ft. 1 in. The
trunks show to a considerable degree
the characteristics of *Ceanothus*
cuneatus. The bark dies above and
below a shade-killed branch. This
eventually results in deep longitudinal
pockets into which one can thrust
the four fingers of the hand. There
are also results the "strand"
appearance due to the continuous thick-
ening of the wood in longitudinal
bands. There is also a twisted
appearance to these bands, as if the
trunk were composed of a num-
ber of such and each one fun-
cting independently. Rocky
slopes. = *C. macrocarpus* Nutt.

- no. 12079. *Arctostaphylos*
No crown-sprouting. Distinct
trunks; large shrubs. Ridges behind Pelican Bay
- no. 12,080. *Arctostaphylos*
No crown-sprouting. Distinct
trunks. The flowering in this
case (no. 12,080) and the fruiting
in 12079 are in each case, I
think, out-of-season. due to
peculiarities of rain and temp-
eratures this last year. Both
on ridges above Pelican Bay.
- no. 12,081. *Rhamnus* ^{*pirifolia* (Greene)}
~~*subcordata*~~ CB Wolf
Greene. Petals 4, green, sharply lac-
ceolate. In appearance very differ-
ent from the mainland *dis-*
jolia. cf. vol. 46, p. 69. Ridges behind Pelican
Bay.
- no. 12,082. *Prunus* ^{*lyonii* (Greene) Greene}
~~*aliciifolia*~~ W. J. G.
integrifolia Lindl. with 12,083.
- no. 12,083. *Arctostaphylos* *glan-*
subcordata Eastw.
dulosa Eastw. Crown-sprouting.
Ridge above Pelican Bay = *Var. laurina*
Jepson.

- no. 12,084. *Cheilanthes cooperae* Eaton
This fern grew in chaparral
on ridge above Pelican Bay.
- no. 12,085. *Pellaea mucronata* (D.C. Eaton)
D.C. Eaton var. *mucronata* This fern grew with 12,084.
- no. 12,086. *Oenothera wislizenii*
Low spreading or even
semi-prostrate oak with very shiny,
very clean, very bright green Laurel-
like leaves. On ridge above Pelican
Bay.
- no. 12,087. *Antirrhinum*
Rocky slope above Pelican Bay.
- no. 12,088. *Daucus pusillus* Michx.
Dry grassy slope. Pelican Bay
- no. 12,089. *Centaurium muhlenbergii*
Wight. Dry grassy slope. Pelican Bay.
- no. 12,090. *Lotus salicuginosus*
Greene. Grassy slope above Pelican
Bay. Stems several, suberect or
spreading. Half of top cut away from
stem: Leaflets 6 to 8. Grassy
slope above Pelican Bay.

- No. 12091. *Astragalus didymocarpus* H. & A.
Ridge behind Pelican Bay.
- No. 12092. *Adenostoma fasciculatum* H. & A. This seems exactly like the mainland form. What other shrub in Cal. has so wide a range, is so abundant in individual, and is so constant in character as this? Ridge behind Pelican Bay.
- No. 12093. *Helianthemum scoparium* var. *vilgense* J. Nutt. Fls. $2\frac{1}{2}$ lines broad. Petals yellow, obovate, obtuse, sometimes a little obscurely eroseulate. Style with a stigmatic tuft of clear white or rather transparent hairs. Stamens 9, 9, 8, 8. Ovary 3-angled. Ovary 1-celled. Sepals: 3 large, ovate; 2 small, linear. Dry ridge, Pelican Bay.
- *Lyonothamnus asplenifolius* Greene. 45-50 ft. h. In cañons, associated with *Arctostaphylos* no. 12079 and 12083, *Pinus muricata*, *Adenostoma fasciculatum*. It is

not, however, found on the very backbones of the lateral ridges as these associated species frequently are.

(*radiata* var. *binata* Lem.)

- No. 12094. *Pinus* See note below. *

Commonly 40 to 60 ft. h., often 75 ft. h. It is mainly gregarious in areas of 5, 10, 15 acres on the northerly slopes. I study it above Pelican Bay where there is a good deal of it; it extends $\frac{2}{3}$ the way to the summit of the main ridge. In every case that I examined I found the needles 2. In the main cañon above Pelican Bay there is a dense stand of slender very tall trees, probably 90 ft. h. See cones. Ridge above Pelican Bay.

No. 12095. *Habruaria elegans* (Link!) Boland In brush land. Pelican Bay.

No. 12096. *Centroseium muhlbergii* Wright White-flwd! Pelican Bay.

* In appearance, cones, cone-persistence, habit, = marvelously like *P. muricata*!!

No. 12097. *Dichelostemma pulchellum*
~~*Androsace congesta*~~

Staminodes quadratish-oblong,
deeply cleft, at first closing over
the stamens, later spreading so as
to make three round apertures around
the style between the anthers.

? Staminodes opp. inner segs. Fertile
or, at least larger anthers on lanceo-
late ^{at}-dilated filaments, these opp.
outer segments. Pelican Bay,
grassy opens.

No. 12098. *Grappalium*

Bushy plant 4 1/2 ft. h., erect,
the many stems (the spec. repre-
sents one) borne on a main
trunk 1 ft. h. and 3/4 in. diam.
Pelican Bay. Open in bushy
slope.

No. 12099. *Arctostaphylos insularis*
Greene. Pelican Bay. Crown-sprouting!
Trunks swollen at ground.

No. 12,100. *Arctostaphylos*

Hairs glandular and
more or less gland-tipped. No
crown-sprouting, the distinct
trunks not swollen at ground.
Axillary buds (to be the winter buds)
globose or depressed-globose, of
many scales. Buds at least very
obtus. Panicles for next year
now pushed, drooping, compact
or bundle-like. Trunks with a
bloom, always with a bloom on
protected side. Shrub 16 ft. h., 22 ft.
broad, trunk 2 ft. diam. at ground,
whence several stems arise. (Trunks
6 to 8 in. diam. and 2 to 4 ft. h.
not uncommon.) Pelican Bay.

No. 12,101. *Arctostaphylos insularis*
Greene. Shrub 14 ft. h., trunk 1 ft.
diam. Pelican Bay.

No. 12,102. *Arctostaphylos insularis*
Greene. Pelican Bay.

- No. 12, 103. *Quercus wislizenii*
Pelican Bay.
- No. 12, 104. *Pellaea mucronata* (D.C. Eaton)
D.C. Eaton var. *mucronata*
Ridge above Pelican Bay.
- No. 12, 105. *Ceanothus arboreus*
Greene. Slender tree 12 to 16 ft. h.
with rounded crown and distinct
trunk 3 to 5 ft. h., the trunk 4 to
6 in. diam. Pelican Bay.
- No. 12, 105a. Gall on *Ceanothus arboreus*.
See A.C. Kinney in litt. 1/30/28. Pelican Bay.
- No. 12, 106. *Cirsium*
Grassy open. Pelican Bay.
- No. 12, 107. *Photinia arbutifolia*
^{= *Waterhousea*}
(Lindl.) M. Roemer 35 ft. h., trunk 10 ft. h.
and 8 in. diam. Spm. taken to
show the remarkably Arbutus-
like leaves. These are from root
crown shoots. Pelican Bay.
- No. 12, 108. *Quercus*
A single tree noted; 26 ft.
h., crown 30 ft. broad, the trunk
trunk 8 ft. h. Pelican Bay.

- standing in the grassy open.
- No. 12, 109. *Solanum elaeagnifolium* Mung.
Stems 5 to 10 ft. long, climb-
ing over shrubs and making a flow-
ery bank. Pelican Bay.
- No. 12, 110. *Phacelia viscida* Torr.
Wash; Pelican Bay.
- No. 12, 111. *Graphalium chilense*
Wash. Pelican Bay.
- No. 12, 112. *Oenothera micrantha* Hornem.
Wash. Pelican Bay.
- No. 12, 113. ^{= *Dudleya*} *Cotyledon caespitosa*
Haw. Cliffs. Pelican Bay.
- No. 12, 114. *Stazardia cana* Greene.
Cliffs. Stems slender, 1/4 to 1/2 in.
diam. mostly, only slightly branched,
that is with few branches; the plant
drooping or down-curling on cliffs,
2 to 3 ft. long, at most 6 ft. long.
Pelican Bay.
- No. 12, 115. *Bloomeria aurea*
dry grassy slope, Pelican Bay

No. 12, 116. *Viola pedunculata* T. & G.
with 12, 115.

No. 12, 117. *Conarostaphylis diversifolia* ^{var.} *plumifolia* ^{Greene}
tree 6 ft. 4 in. trunk
in circ. at 4 ft.; 21 ft. h., crown
26 ft. broad.

No. 12, 118. *Echinocystis macrocarpa* ^{marah} ^{Greene}
It climbs trees and

bushes. A dead *Quercus muricata*
it has covered with a dense
leafy screen that is a good
protection against the wind.

Pelican Bay.

No. 12, 119. *Centaurium muhlenbergii* Nutt.
with 12, 118.

No. 12, 120. *Sanicula arguta* Greene.
Grassy slope. Pelican Bay.

No. 12, 121. *Trifolium tridentatum*
Tindl. Grassy slope, Pelican Bay
= *S. bullata*

No. 12, 122. *Stachys californica* Bth.
Wash. Pelican Bay.

No. 12, 122 a.
This fern grew in the deep cañon at Pelican Bay.

No. 12, 123. *Pentstemon cordifolius* Bth.
Cor. scarlet. Lower lip hang-
ing straight down (at right angles
to tube). Climbing. Pelican Bay.

No. 12, 124. *Hemichera maxima* Greene
Cliffs, in shade of cañon.

Pelican Bay.

No. 12, 125. *Adiantum*
Bank of it in the deep
cañon of the watercourse above Pelican Bay.

No. 12, 126. *Eriogonum arborescens*
Greene. Bush, trunk 3 in. diam.
at base, the plant down-
wreathing on the cliffs, 3 to 3½ ft.
long. Narrow thick leaves.
Pelican Bay. Perianth white, the seg-
ments with dark pink band.

The first day we went by the sea wall
down to Prisoner's Harbor, the wharf of the
Caire people. Here is planted a grove of
French and Italian pines. We walked
up the stream, which is a bristly-

flowing creek, & the very considerable ranch headquarters of the Cairo Company. The buildings, including the barns and of course the winery, are of brick, or partly stone. The vineyards are extensive and fine wines were once made here. The ranch house and buildings lie in the main valley which runs pretty well through the west end of the island. It is a narrow valley but a fertile one. We met Mr. Fred Cairo, the proprietor. He remembers when Professor E. L. Greene was a guest here at the ranch house, on his botanizing trip. The family wished him, to take a saddle horse when he ^(Greene) went botanizing or a guide, but he refused both saying he could do nothing on crossback. He would stay out until 8:00 o'clock in the evening and the family would hear

that he had become lost on the island where it is so easy to lose one's way. Unfortunately he left behind, at the Cairo house, a bundle of his specimens. The bugs eventually destroyed them, Mrs. Cairo discovered.

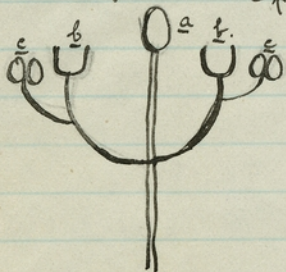
- *Silene gallica*, common at Pelican Bay.
- *Lymothamnus floribundus* Gray
The tree with its flat-topped fl. clusters sometimes looks like a *Sambucus* tree at a little distance?
- *Photinia arbutifolia* Lindl. I note a clump 30 ft. broad, one tree 26 ft. high.
- *Artemisia californica* Less. Occurs above Pelican Bay.
- *Leptosyne gigantea* with 2, 3, or 4 candelabra-like arms, - 4 to 6 ft. h. grows on the vertical ocean cliffs of Pelican Bay. It is now past flowering and is mostly inaccessible.

200 Santa Cruz Island

May 28, 1927

- *Convolvulus macrostegius*, no.
12,053 cont.

Diagram of infl



- a - past flower
b - in flower
c - pairs of buds

- There are probably always 5
or 7 fls. or more, rarely as few
as given in the books, the buds
coming into anthesis successively,
previously being much concealed
by the very large bracts
- *Salix lasiolepis*, grows along the
living stream which runs down
from the main valley. The trees have
been felled to make withes for
the basketry of the wine-bottles
for the wine made here.

Addresses.

- Fred. Caire, Box 688, Santa Barbara.

483

HERBARIUM
OF CALIFORNIA
UNIVERSITY OF CALIFORNIA

INDEX.

Bryant, Mrs. S.B.

- I call at the West

House at Home, S.F.,

- intends to sell seed.
119
125.

